FOREST RENEWAL BC
PACIFIC REGION
RESOURCE MANAGEMENT PLAN

Prepared by:

Ministry of Forests
Vancouver Forest Region

Ministry of Environment, Lands and Parks
Vancouver Island Region 1
Lower Mainland Region 2
Caribou Region 5
Skeena Region 6

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FOREST RENEWAL BC
PACIFIC REGION
RESOURCE MANAGEMENT PLAN

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2.0 INTRODUCTION

The Ministry of Forests (MoF) and the Ministry of Environment, Lands and Parks (MELP) are mandated by legislation to undertake planning functions related to the management of Crown forest land.

During 1998/1999, the Ministry of Forests (MoF) and the Ministry of Environment, Lands and Parks (MELP) undertook a planning process, with the involvement of stakeholders to develop resource management plans (RMPs) which identified forest resource management objectives and priorities and provided resource stewardship direction for Forest Renewal BC (FRBC) investments. The participation of agencies and stakeholders and the use of these plans in the Corporation's investment plan varied by region and program.

For 1999/2000, and as part of the Service Agreements with Forest Renewal BC, the ministries were committed to continue to lead the development of standardized resource management plans with participation from Forest Renewal BC, Department of Fisheries and Oceans (DFO) and stakeholders. The lead ministries have committed staffing and resources to continue this initiative with technical guidelines having being jointly prepared by the ministries and FRBC to provide provincial guidance to staff undertaking this planning initiative.

3.0 PURPOSE OF RESOURCE MANAGEMENT PLAN

The purpose of the RMP will be to identify resource objectives and priorities, to outline priority forest management activities requiring funding in future years, and, to recommend conservation and stewardship investment opportunities in support of the strategic objectives identified in the "Forest Renewal BC Strategic Plan 1999-2003." These recommended opportunities comprise this Resource Management Plan (RMP).

Using Forest Renewal BC investment guidelines, the ministries will thereby recommend, from the RMPs, those resource investment opportunities which will achieve the Corporation's newly defined strategic objectives:

- **Enhancing Environmental Values** (EEV; formerly known as the Watershed Restoration Program);
- **Strengthening Sustainable Forest Management** (SSFM; formerly known as the Operational Inventory Program); and
- **Sustainable Harvest** (SH; formerly known as Enhanced Forestry).

The Corporation committed that these recommendations will direct the development of the Forest Renewal BC Forest and Environment Investment Plan (FEIP). Funding for priority activities which are not eligible for Forest Renewal funding will be pursued by the ministries through other sources.

4.0 VOLUME 1

ENHANCING ENVIRONMENTAL VALUES

4.1 Introduction

As noted in the Forest Renewal BC (FRBC) strategic plan, "The Watershed Restoration Program (WRP) is in transition. Future investment by FRBC will be directed towards restoring and protecting fish habitat and domestic water supplies in priority watersheds, which have been damaged or are threatened by pre-code forest development. Within the next five years, Forest Renewal BC investments in the WRP will be targeted to completing 20% of the highest priority watersheds in each region."

In order to implement FRBC's new focus, an inter-agency team consisting of members of the Ministry of Forests (MOF), the Ministry of Environment, Lands and Parks (MELP), and FRBC was formed to develop Resource Management Plan (RMP) guidelines. The result of their efforts was the production of a document entitled "RMP Guidelines for the Enhancing Environmental Values Component, Appendix II[1]." It was these guidelines that were followed during the production of this document.

4.2 Purpose

This document constitutes the Enhancing Environmental Values (EEV, formerly known as the WRP) portion of FRBC's Resource Management Plan for fiscal year 2000/01. The purpose of this plan is to establish resource management priorities and recommend investment opportunities in support of the EEV strategic objective.

4.3 Process and Procedures

The guidelines detail the process to be followed for the production of the 2000/01 EEV, RMP. Specifically, there is to be a single RMP for each FRBC region. This means that input from MOF, MELP, and all of the multi-year agreement holders must be combined into one comprehensive document. In order to achieve this objective, the following steps were undertaken:

1. To facilitate an integrated approach to planning, a common list of watersheds was delineated by MELP using the provincial watershed atlas[2] (see Appendix A).

2. Each watershed was rated for its fish habitat and water supply values. This exercise was completed by MELP in conjunction with the Department of Fisheries and Oceans (DFO) (see Appendix B). Watersheds which were identified as having high values in either of these classifications were designated as **key watersheds**.

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[1] This document can be downloaded from the internet at http://www.for.gov.bc.ca./CPP/rmpguidelines/index.htm

[2] This file can be downloaded from the internet at ftp://ftp.elp.gov.bc.ca/Branches_Regions/kamftp/pub/outgoing/wsrp

3. Each watershed was then examined to determine the current status of restoration activities. Sub-basin names were noted where work activities are underway.

4. Using the information collected in the previous steps, each watershed was assigned to a specific category in accordance with the procedure outlined in Appendix C. The watersheds were further broken down into **target watersheds** (i.e. key watersheds which do not have a significant proportion of private land and have a high likelihood of restoration success) and **transitional watersheds** (i.e. watersheds that do not have high fish or water values but where "on ground" works have already commenced).

The final result of this process was the production of a list of watersheds detailing areas where investment by FRBC would be most effective in achieving their new objectives (see Appendix D). Analysis of this data produced the following results.

Category	Definition	Number of watersheds	Percent of Total
1	Fully eligible under the new guidelines	80	9
2	Eligible under the new guidelines except that the watershed contains significant proportions of private land.	46	5
3	Minimal impacts to fish and water resources. No works (i.e. stage 3) initiated.	358	40
3 (transitional)	Minimal impacts to fish and water resources. Some works (i.e. stage 3) initiated.	86	9
4	The watershed is damaged to such an extent that normal restoration procedures are unlikely to be successful.	6	1
5	The condition of the watershed is unknown.	221	25
6	Fully eligible under the new guidelines. Some works (i.e. stage 3) completed.	98	11
Total		895	100

There are 312 key watersheds in the Pacific Region (35% of the total). Of these, 177 (or approximately 20%) are defined as target watersheds. Target watersheds can be found in either category 1 or 6. In the former instance, no "on ground" works have been started (i.e. the project has not progressed beyond the prescription stage) while the category 6 watersheds are nearing completion (i.e. the project is in either stage 3 or 4). The following table summarizes the current state of restoration activities in the target watersheds.

Stage	Definition	Number of Target Watersheds	Percent of Total
1	Overview Assessment	70	39
2	Detailed Prescriptions	7	5
3	"On-ground" Works	83	48
4	Monitoring	17	8
Total		177	100

In some target watersheds stages 2, 3, and 4 are taking place simultaneously (e.g. completed road deactivation may be undergoing monitoring while landslides are being rehabilitated and prescriptions are being developed for in-stream works). In these cases, the watersheds are included under the stage 3 heading.

There are 86 transitional watersheds in the Pacific Region (10% of the total). It is estimated that it will require approximately $20 million to complete these ongoing projects. According to the planning guidelines, 2000/01 is the last fiscal year in which these projects will be eligible for funding. FRBC has allocated 30% of next year's EEV budget of $23.5 million to fund transitional watersheds (i.e. approximately $7 million). Given the discrepancy between these two figures it is unlikely that all of the transitional projects will be completed.

4.4 Resource Management Issues

It should be noted that although target watersheds currently represent only 20% of the total watersheds within the Pacific Region, there are a large number of areas in which the current state of forestry impacts is uncertain (i.e. category 5). It is quite likely that the majority of these watersheds will be reclassified as category 3s once overview assessments have been completed; but inevitably, some of these areas will become new key watersheds.

A number of anomalies remain in the designation of watershed categories listed in Appendix D. Although these anomalies in designation will not likely impact funding of watersheds for 2000/2001, until corrections are made, or, designations re-negotiated with MoF and DFO, care should be taken in using Appendix D when considering future funding decisions.

Given the urgency with which this RMP process was completed, this plan should be considered a living document and subject to change as better data becomes available. Furthermore, under the current classification system the category assigned to a particular watershed will change as its restoration progresses. Because of these factors, the watershed list will require annual updating if a similar RMP process is to be followed in future years.

The narrowing focus of the WRP goals has reduced the number of eligible projects. Considerations, such as safety and the security of plantations, are no longer factors to be considered under the EEV strategic objective, but must now be included in the Sustainable Harvest (SH) strategic objective. Given this transfer between strategic objectives, FRBC may want to consider redistributing financial resources to match the new distribution of responsibilities.

4.5 Recommended List of Resource Activities for Forest Renewal BC

Target Watersheds

All of the 177 target watersheds are fully eligible under FRBC's new guidelines, and as such represent good investments. Considering the corporation's objective of finishing 20% of the high priority watersheds within the next five years, however, it may be prudent to preferentially allocate financial resources towards those watersheds that are nearing completion (i.e. category 6). If this approach is pursued, care should be taken to ensure that new projects are brought on line as the older ones are finished in order to prevent a possible shortage of work related activities in the future.

Transitional Watersheds

When the list of transitional watersheds is examined in conjunction with the current investment plans, it becomes obvious that some of the watersheds have higher projected completion costs than others. Considering the limited financial resources targeted to transitional watersheds, the EEV Technical Team recommends that the following projects be given priority.

MoF District	Watershed Unit	Watershed Name	Sub-basin	Recipient
DCK	65	Borden Creek		Tamihi
DCK	80	Deneau Creek		Pretty's Timber
DCK	81	Ladner Creek	Ladner Creek East	Pretty's Timber
DCK	81	Ladner Creek	Ladner Creek West	Pretty's Timber
DCK	72	Tamihi Creek		Tamihi
DCR	222	Tsable	Fanny Bay	Interfor
DCR	398	Phillips River		MB
DCR	398	Phillips River	Clearwater	MB
DCR	398	Phillips River	Hoet	MB
DCR		Shirley Creek		MB

MoF District	Watershed Unit	Watershed Name	Sub-basin	Recipient
DCR	57	Tsowwin River		Western
DMC		Camp II		Interfor
DMC	491	Campbell Island		Western
DMC	476	Clayton Falls Creek		Interfor
DPM	377	San Josef	San Josef	Western
DPM	364	Teeta	Teeta	Western
DQC	143	Cave	Cave Haines	Husby
DSC	441	Narrows Inlet		Interfor
DSI	216	Sarita		MB
DSQ	256	Brandywine River	Brandywine River	Western
DSQ	290	Furry Creek	Furry Creek	MoF
DSQ	270	Gowan Creek	Gowan Creek	Interfor
DSQ	279	Meager Creek	Meager Creek	CRB
DSQ	282	Soo River	Soo River	Richmond Ply

4.6 Communications Report

Consultation has taken place throughout the RMP process. Meetings between government agencies (i.e. FRBC, MOF, MELP and DFO) have been ongoing since the start of the year. This initially took place as part of the development of the RMP guidelines and subsequently in discussion concerning their implementation. Initial contact at the planning unit level (i.e. MOF districts) took place on July 9, 1999, and the multi-year agreement (MYA)holders were brought into the process on July 16, 1999 (see Section 8.0).

Direct input was solicited from MOF districts and the multi-year agreement holders on July 30, 1999, and the requested information was received from the majority of the participants. Although no data was received from the Steelhead Society, the Fraser TSA Cooperative and the Soo TSA Cooperative, the MOF districts were able to provide the relevant information. Once the data was compiled and verified, the draft information was redistributed to all participants on September 9, 1999, and September 13, 1999. The relevant corrections were then incorporated into the spreadsheet which forms Appendix D of the document.

Throughout the entire process there were numerous communications between the EEV planning team and both the MOF district and the major licensees (e.g. e-mail, telephone conservation etc.). These contacts enabled all participants to improve the quality of their input and thereby enhance the effectiveness of the RMP document.

Volume 1 Appendices

ENHANCING ENVIRONMENTAL VALUES

APPENDIX A

Watershed Map

Also can be obtained from the internet at:

ftp://ftp.elp.gov.bc.ca/Branches_Regions/kamftp/pub/outgoing/wsrp

APPENDIX B

Determination of Fish and Water Values

Provincial Criteria

Fish:

Level of Use
High = 5
Medium = 3
Low = 1

Fish Management Value
High = 15
Medium = 10
Low = 5

Unique Fish Species
Present = 5
Absent = 0
Unknown = 3

Productivity Declines
High = 8
Medium = 5
Low = 2
Unknown = 2
None = 0

Threatened Aquatic Population
Present = 5
Absent = 0
Unknown = 3

Historically Enhanced
Yes = 1
No = 0

Scientific Research
Yes = 1
No = 0

Water:
CWS
Present = 20
Absent = 0

DFO Criteria

Lower Mainland

Significant Commercial Population
High = 20
Medium = 15
Low = 5
None = 0

Native Fisheries Value
High = 15
Medium = 10
Low = 5
None = 0

Salmon Species at Risk
Present = 5
Absent = 0
Unknown = 3

Final score out of 40 derived buy summing the above scores.

Vancouver Island, Queen Charlottes and Mid-Coast

Significant Commercial Population
High = 30
Medium = 20
Low = 10

Native Fisheries Value
High = 5
Medium = 3
Low = 1

Stock Status (% historic escapement)
Poor (<20%) = 1
Poor – Fair (20–30%) = 2
Fair (30-40%) = 3
Fair – good (40-60%) = 4
Good (>60%) = 5

# Points of Diversion (PODs) 	
0 = 0
1-9 = 4
10-50 = 8
>50 = 12
	Final score out of 40 derived by summing Significant Commercial Population and Native Fisheries Value and multiplying this sum by the average stock status for all 5 salmon species. The resulting score, which exceeds 40, is was then factored down to a score out of 40.

Due to administrative issues, the DFO was not consistent in their approach to the process. The criteria outlined above, while not derived from the identical process, were used assuming that the use of common basic criteria and the use of a common total of 40 allow for identification of the priority watersheds from a DFO perspective. As a follow-up to this exercise, the scoring for salmon must be revisited and worked into a common scoring system. Unfortunately, the time allowed for this process and the limited resources available to DFO for the exercise force us to rely on the information as it is currently available.

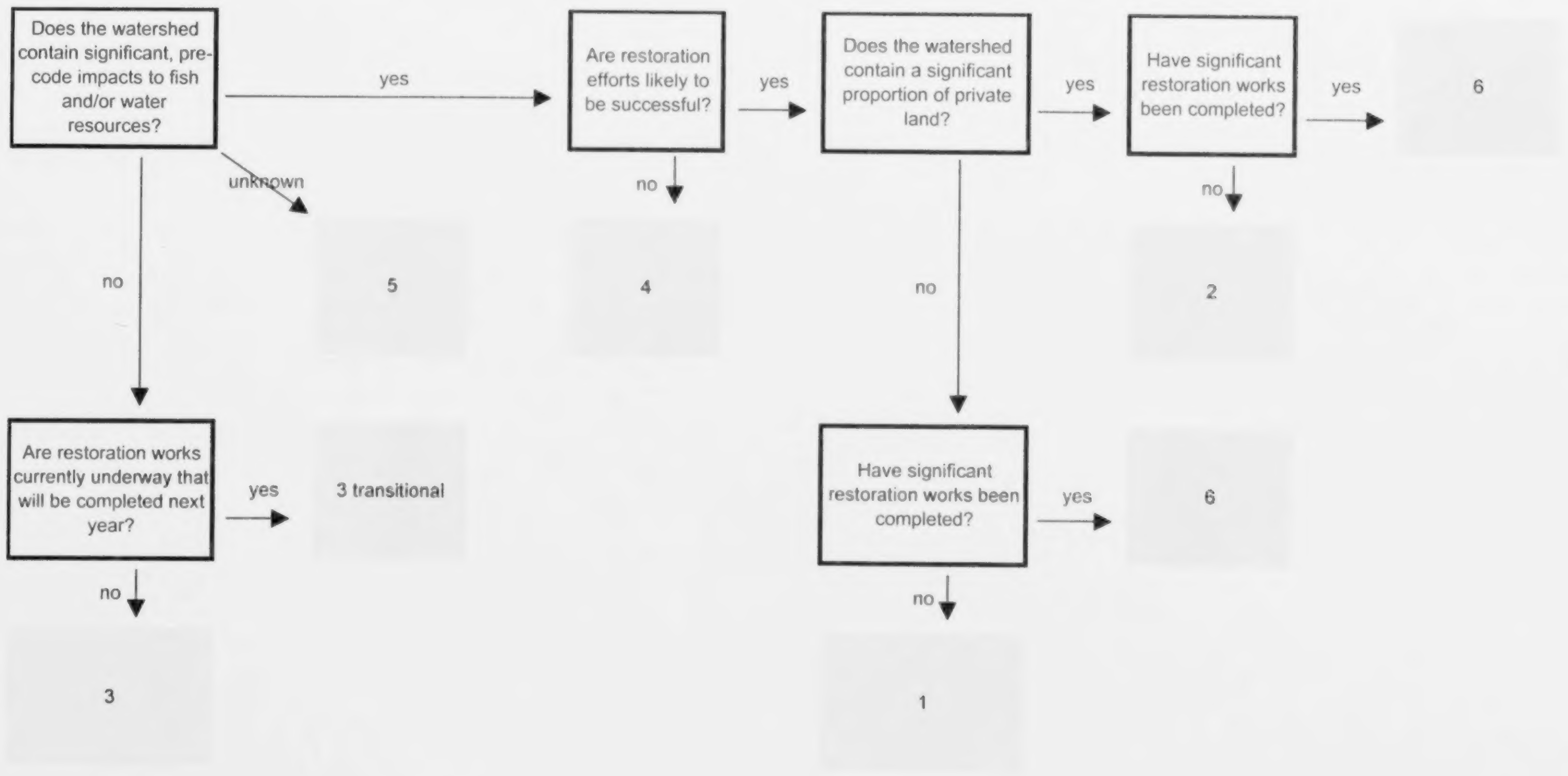
The information provided above was then summarized in a spreadsheet which allowed for the rating of the watersheds according to their fish and domestic water values. The key domestic water watersheds were selected based solely on the presence or absence of a community watershed as indicated by a water score exceeding 20 points. Key fish watersheds were based upon 25% of overall number of watersheds, divided equally between the top MELP rated watersheds and DFO rated watersheds to reflect the fact that each agency deals with different species with no overlaps. This reflects the key species/stock approach better than would a combined fish scoring.

It must be noted that as a result of the necessary limitation on the number of watersheds making the list, there are some very significant fish producing systems that do not make the list of key watersheds. This reflects the high number of significant fish producing streams in the region. It was the objective of this exercise to identify the most important of these as key systems. Because a system does not make the list, it should not be interpreted as meaning that the system is not important to fish production; rather, it does not rate in the top 25% regionally.

APPENDIX C

Category Flowchart

Category Flowchart


Does the watershed contain significant, pre-code impacts to fish and/or water resources?
yes
unknown
no
Are restoration efforts likely to be successful?
yes
no
Does the watershed contain a significant proportion of private land?
yes
no
Have significant restoration works been completed?
yes
no
6
5
4
2
Are restoration works currently underway that will be completed next year?
yes
no
3 transitional
3
Have significant restoration works been completed?
yes
no
6
1

APPENDIX D

Watershed Listing

Enhanced Environmental Values Resource Management Plan 2000/01

544 MoF District	Watershed Unit	Watershed Name	Key Watershed	Priority for Fish	Priority for Water	Category	Recipient	MYA Number	Partners	Status of Work	Transition Watershed	Target Watershed
DCR	1	Adam River	no	no	no	3	Western	PAM 98504		4	yes	no
DCR	2	Eve River	no	no	no	3	MB	PAM 98507	none	3	yes	no
DCR	3	Vernon Lake	no	no	no	3	TFL	PAM 98503	IWA	2,3	yes	no
DCR	4	Houston River	no	no	no	3	Western		none	0	no	no
DCR	6	Burman River	no	no	no	3	Western		none	0	no	no
DCR	7	Jacklah River	no	no	no	3	Western		none	0	no	no
DCR	8	Machley Creek	no	no	no	3	Western		none	0	no	no
DCR	9	Buttle	yes	no	yes	2				0	no	no
DCR	10	Muchalat	yes	yes	no	6A	Western	PAM 98504	none	3	no	yes
DCR	11	Upana	yes	yes	no	1	Western			0	no	no
DCR	12	Ucona	yes	yes	no	1	Western			0	no	no
DCR	13	Gold	yes	yes	no	6A	Western		none	0	no	no
DCR	14	Silverado	no	no	no	3	Western		none	0	no	no
DCR	15	Elk River	no	no	no	5	Interfor		none	0	no	no
DCR	16	Upper Campbell River	yes	no	yes	2	MoF	PAA00501		0	no	no
DCR	17	Heber River	yes	yes	no	1	Western		none	0	no	no
DCR	18	Memakay River	yes	yes	no	6A	MB	PAM 98507	none	3	no	yes
DCR	19	Grilse Creek	yes	yes	no	6A	MB	PAM 98507	none	3	no	yes
DCR	20	Bigtree Creek	yes	yes	no	6A	MB			4	no	yes
DCR	21	Upper Salmon River	yes	yes	no	1	MB			0	no	yes
DCR	22	Lower Salmon River	no	no	no	3	MB	PAM 98507	none	3	yes	no
DCR	23	White River	yes	no	yes	6A	MB	PAM 98507	none	3	no	yes
DCR	24	Quadra Island	no	no	no	5	TFL	PAM 98505	none	0	no	no
DCR	25	Sonora Island	no	no	no	3	TFL	PAM 98505	none	1	no	no
DCR	26	East Thurlow Island	no	no	no	3	TFL		none	4	no	no
DCR	27	West Thurlow Island	no	no	no	5	TFL		none	0	no	no
DCR	28	Hardwicke Island	no	no	no	3	TFL	PAM 98505	none	3	yes	no
DCR	29	Mohun Creek	no	no	no	3	MoF	PAA00501		1	no	no
DCR	30	Pye Creek	no	no	no	5	Interfor			0	no	no
DCR	31	Menzies Creek	no	no	no	3	MoF	PAA00501	none	1	no	no
DCR	32	Amor de Cosmos Creek	no	no	no	5	Interfor			0	no	no
DCR	33	Elk Bay Face Unit	no	no	no	5	Interfor		none	0	no	no
DCR	34	Sayward Face	no	no	no	5	Interfor			0	no	no
DCR	35	Kelsey Bay Face Unit	no	no	no	3	MB	PAM 98507	none	3	yes	no
DCR	36	Lower Campbell River	yes	no	yes	1	MoF	PAA00501		1	no	yes
DCR	37	Quinsam River	yes	yes	no	1				0	no	yes
DPM	38	Simms Face	yes	yes	no	5				0	no	yes
DCR	39	Oyster River	yes	yes	yes	2				0	no	no
DCR	40	Black Creek	yes	yes	no	2				0	no	yes
DCR	41	Tsolum River	yes	no	yes	2				0	no	no

MoF District	Watershed Unit	Watershed Name	Key Watershed	Priority for Fish	Priority for Water	Category	Recipient	MYA Number	Partners	Status of Work	Transition Watershed	Target Watershed
DCR	42	Little River Face	no	no	no	3				0	no	no
DCR	43	Puntledge River	yes	yes	yes	2				0	no	no
DCR	44	Trent River	no	no	no	3				0	no	no
DCR	45	Bligh Island	no	no	no	3	MoF	PAA00501	none	0	no	no
DCR	46	Gore Island	no	no	no	3	MoF	PAA00501	none	0	no	no
DCR	47	Kleptee Creek	no	no	no	3	Western		none	0	no	no
DCR	48	McCurdy Creek	no	no	no	3	Western		none	0	no	no
DCR	49	Tlupana River	no	no	no	3	Western		none	1	no	no
DCR	50	Conuma River	yes	yes	no	1	Western		none	0	no	no
DCR	51	Sucwoa River	no	no	no	3	Western		none	0	no	yes
DCR	52	Nootka Island	no	no	no	3	Western		none	0	no	no
DCR	53	Tahsis River	yes	no	yes	5	Western	PAM 98504	none	3	yes	no
DCR	54	Leiner/Perry River	no	no	no	5	Western		none	0	no	no
DCR	55	Deserted Lake	no	no	no	5	Western		none	0	no	no
DCR	56	Hisnit Inlet	no	no	no	3	Western		none	0	no	no
DCR	57	Tssowwin River	no	no	no	3	Western	PAM 98504		3	yes	no
DCR	58	Tahsis Inlet	no	no	no	3	Western		none	0	no	no
DCR	59	Canton	no	no	no	3	Western		none	0	no	no
DCR	60	Little Zaballos River	no	no	no	3	MoF	PAA00501	FN	3	yes	no
DCR	61	Zeballos River	yes	no	yes	6A	Western	PAM 98504	none	3	no	yes
DCR	62	Kaouk River	yes	yes	no	6A	MoF	PAA00501	FN	4	no	yes
DCR	63	Tahsish River	yes	yes	no	1	MoF	PAA00501	none	1	no	yes
DCK	64	Airplane/Foley	yes	yes	no	1	Cattermole			1	no	yes
DCK	65	Borden Creek	no	no	no	3	Tamihi	PAM99115		3	yes	no
DCK	66	Centre Creek	yes	yes	yes	1	Cattermole			1	no	yes
DCK	67	Chipmunk Creek	yes	yes	no	1	Cattermole			1	no	yes
DCK	68	Nesakwatch Creek	yes	yes	no	1				1	no	yes
DCK	69	Paleface Creek	yes	yes	no	1				1	no	yes
DCK	70	Post Creek	no	no	no	3					no	no
DCK	71	Slesse Creek	yes	yes	no	1	Cattermole			1	no	yes
DCK	72	Tamihi Creek	no	no	no	3	Tamihi	PAM99115		3	yes	no
DCK	73	Yola/Cantelon Creeks	no	no	no	3					no	no
DCK	74	Silverhope Creek	yes	yes	yes	6A	Interfor	PAM98108	IWA	4	no	yes
DCK	75	Klesilkwa River	no	no	no	3					no	no
DCK	76	Sumallo/Twenty Mile Creeks	no	no	no	3					no	no
DCK	77	Skagit River	no	no	no	3					no	no
DCK	78	Sowoqua Creek	yes	yes	no	6A	Tamihi			3	no	yes
DCK	79	Dewdney Creek	no	no	no	3					no	no
DCK	80	Deneau Creek	no	no	no	3	Pretty's Timber	PAM99115		3	yes	no
DCK	81	Ladner Creek	no	no	no	3	Pretty's Timber	PAM99115		3	yes	no
DCK	82	Coquihalla River	yes	yes	yes	1				1	no	yes
DCK	83	Anderson River	no	no	no	3					no	no

MoF District	Watershed Unit	Watershed Name	Key Watershed	Priority for Fish	Priority for Water	Category	Recipient	MYA Number	Partners	Status of Work	Transition Watershed	Target Watershed
DCK	84	Ainslie River	no	no	no	3					no	no
DCK	85	Siwash Creek	no	no	no	3					no	no
DCK	86	Spuzzum Creek	yes	no	yes	6A	J S Jones	PAM99115	Spuzzum	3	no	yes
DCK	87	Tsileuh Creek	no	no	no	3					no	no
DCK	88	Scuzzy Creek	no	no	no	3	J S Jones	PAM99115	Boston Bar	3	no	no
DCK	89	Nahatlatch River	yes	yes	no	1		PAM99115	Boothroyd	1	no	yes
DCK	90	Big Silver Creek	yes	yes	no	1				1	no	yes
DCK	91	Hornet/Clear Creeks	no	no	no	3	Western			3	yes	no
DCK	92	Chehalis River	yes	yes	no	1	Canfor	PAM98103		1	no	yes
DCK	93	Cogburn/Talc Creeks	yes	yes	no	1	Pretty's Timber			1	no	yes
DCK	94	Harrison River	yes	yes	yes	2					no	no
DCK	95	Weaver Creek	yes	yes	no	1				1	no	yes
DCK	96	Norrish Creek	yes	no	yes	6A	Canfor			3	no	yes
DCK	97	Cascade Creek	no	no	no	3		PAM98103		1	no	no
DCK	98	Winslow/George Good Creeks	no	no	no	3					no	no
DCK	99	Stave River	yes	yes	yes	4				0	no	no
DCK	100	Corbold Creek	yes	yes	no	5				0	no	no
DCK	101	Fish Hatchery Creek	yes	no	yes	6C				0	no	no
DCK	102	Boise Creek	yes	yes	no	5				0	no	no
DCK	103	Gurney Creek	yes	yes	yes	5				0	no	no
DCK	104	Alouette River	yes	yes	yes	2					no	no
DCK	105	Pitt Lake	yes	yes	no	5	J S Jones			0	no	no
DCK	106	Upper Pitt River	yes	yes	yes	6C				1	no	yes
DCK	107	Or Creek	yes	yes	yes	1	MoF	PAA00101		1	no	yes
DCK	108	Coquitlam River	yes	no	yes	1				1	no	yes
DCK	109	Chilliwack River	yes	yes	yes	6A	Cattermole			3	no	yes
DSQ	110	Indian River	yes	yes	no	6A	Interfor		none	3	no	yes
DPM	111	Seymour River	yes	yes	yes	5				0	no	no
DCK	112	Lynn Creek	no	no	no	3					no	no
DCK	113	Capilano River	yes	yes	yes	1				1	no	yes
DCK	114	Serpentine River	no	no	no	3					no	no
DCK	115	Nikomekl River	no	no	no	3					no	no
DCK	116	Salmon River	yes	yes	no	2					no	no
DCK	117	Brunette River	no	no	no	3					no	no
DCK	118	Haztic Lake	yes	no	yes	2					no	no
DCK	119	Kookipi Creek	no	no	no	3					no	no
DCK	120	Log Creek	no	no	no	5				0	no	no
DCK	121	Mehatl River	no	no	no	3					no	no
DCK	122	Mowhokum Creek	no	no	no	3					no	no
DCK	123	Wahleach Creek	yes	yes	no	6A	Interfor	PAM98108	IWA	3	no	yes
DCK	124	Hicks Creek	yes	yes	no	6A	Interfor	PAM98108	IWA	4	no	yes
DCK	125	Yorkson Creek	no	no	no	3					no	no
DCK	126	Frost Creek	no	no	no	3					no	no
DCK	127	Boston Bar Creek	no	no	no	3					no	no

MoF District	Watershed Unit	Watershed Name	Key Watershed	Priority for Fish	Priority for Water	Category	Recipient	MYA Number	Partners	Status of Work	Transition Watershed	Target Watershed
DCK	128	Liumchen Creek	no	no	no	3	Cattermole				no	no
DCK	129	Ruby Creek	no	no	no	3					no	no
DCK	130	Emory Creek	no	no	no	3					no	no
DCK	131	Yale Creek	no	no	no	3	MoF	PAA00101			no	no
DCK	132	Campbell Creek	yes	yes	no	2					no	no
DCK	133	Fishtrap Creek	no	no	no	3					no	no
DCK	134	McLennan Creek	no	no	no	3					no	no
DCK	135	Nathan Creek	no	no	no	3					no	no
DCK	136	Hannah Creek	no	no	no	3					no	no
DCK	137	Sumas River	yes	yes	no	2					no	no
DQC	138	Massett	yes	yes	no	1	MB	PAM98807	Hida	1	no	yes
DQC	139	Yakoun	yes	yes	no	6A	MB	PAM98807	Hida	4	no	yes
DQC	140	Alliford	no	no	no	3	MB	PAM98807	Hida	3	yes	no
DQC	141	Louise	yes	yes	no	1	MB	PAM98807	Hida	3	no	yes
DQC	142	Naden	yes	yes	no	6A	Husby	PAM99813	Old Masset	3	no	yes
DQC	143	Cave	no	no	no	3	Husby	PAM99813	Old Masset	3	yes	no
DQC	144	Tartu	no	no	no	3	Husby	PAM99813	Old Masset	4	yes	no
DQC	145	Rennell	no	no	no	3	MoF	PAA00801	none	3,4	yes	no
DQC	146	Honna	yes	no	yes	5	MB	PAM98807	Hida	0	no	no
DQC	147	Tarundl	yes	no	yes	6A	MoF	PAA00801	none	3	no	yes
DQC	148	Chinukundl	no	no	no	3	MoF	PAA00801	none	4	yes	no
DQC	149	Deena	yes	yes	no	6A	TFL	PAA90003	none	3	no	yes
DQC	150	Copper	yes	yes	no	6A	TFL	PAA90003	none	3	no	yes
DQC	151	Pallant	yes	yes	no	1	Western	PAM98804	none	2	no	yes
DQC	152	Tasu	no	no	no	3	Western	PAM98804	none	3	yes	no
DQC	153	Sewell	no	no	no	3	Western	PAM98804	none	4	yes	no
DQC	154	Talunkwan	no	no	no	3	Western	PAM98804	none	4	yes	no
DQC	155	Tlell	yes	yes	no	1	MB	PAM98807	Hida	0	no	yes
DQC	156	Skidegate	yes	no	yes	5	MoF	PAA00801	none	0	no	no
DQC	157	Long	no	no	no	5				0	no	no
DQC	158	Van	no	no	no	5				0	no	no
DQC	159	Naikoon	no	no	no	5				0	no	no
DQC	160	Hancock	no	no	no	5				0	no	no
DQC	161	Jalun	no	no	no	5				0	no	no
DQC	162	Coates	no	no	no	5				0	no	no
DQC	163	Cumshewa	yes	yes	no	5	MB	PAM98807	Hida	0	no	no
DQC	164	Kuper	no	no	no	5	MB	PAM98807	Hida	0	no	no
DQC	165	Moresby	no	no	no	5				0	no	no
DQC	166	Langara	no	no	no	5				0	no	no
DQC	167	Christie	no	no	no	5				0	no	no
DQC	168	Mayer	no	no	no	5				0	no	no
DQC	169	Kitgoro	no	no	no	5				0	no	no
DQC	170	Mercer	no	no	no	5				0	no	no
DSI	171	Gordon River	yes	yes	no	6A	TFL	PAM98405	Ahousaht FN	2,3	no	yes

MoF District	Watershed Unit	Watershed Name	Key Watershed	Priority for Fish	Priority for Water	Category	Recipient	MYA Number	Partners	Status of Work	Transition Watershed	Target Watershed
DSI	172	San Juan River	yes	yes	no	6A	TFL	PAM98405	acheedaht FN / IW	2,3	no	yes
DSI	173	Sombrio Creek	no	no	no	3	Western	PAM98404		1,2,3	no	no
DSI	174	Loss Creek	no	no	no	3	Western	PAM98404		1,2,3	no	no
DSI	175	Bent Creek	no	no	no	5	Western			0	no	no
DSI	176	Jordan River	no	no	no	5	Western	PAM98404		0	no	no
DSI	177	Goudie Creek	yes	no	yes	5	Western			0	no	no
DSI	178	Kirby	no	no	no	5				0	no	no
DSI	179	Muir Creek	no	no	no	2	Western			0	no	no
DSI	180	Tugwell	no	no	no	2	Western			0	no	no
DSI	181	Sooke River	yes	yes	yes	2	Western			0	no	no
DSI	182	Kemp Creek	yes	no	yes	2				0	no	no
DSI	183	West Mechosin	no	no	no	2				0	no	no
DSI	184	East Mechosin	no	no	no	2				0	no	no
DSI	185	Goldstream	yes	no	yes	2		PAA00401		0	no	no
DSI	186	Victoria/Saanich	no	no	no	2				0	no	no
DSI	187	Johns Creek	yes	no	yes	2	MoF	PAA00401		0	no	no
DSI	188	Shawnigan Creek	yes	no	yes	2	MoF	PAA00401		0	no	no
DSI	189	Koksilah River	yes	yes	no	2	MoF	PAA00401		0	no	no
DSI	190	Cowichan River	yes	yes	yes	6A	MoF	PAA00401		2,3,4	no	yes
DSI	191	Cowichan Lake	yes	yes	yes	2				0	no	no
DSI	192	Chemainus River	yes	yes	yes	2	MoF	PAA00401		0	no	no
DSI	193	Sansum Narrows	no	no	no	2				0	no	no
DSI	194	Duncan	no	no	no	2				0	no	no
DSI	195	Stuart Channel	yes	no	yes	2				0	no	no
DSI	196	Ladysmith	yes	no	yes	2	MoF	PAA00401		0	no	no
DSI	197	Haslam Creek	yes	yes	no	2	TFL			0	no	no
DSI	198	Nanaimo River	yes	yes	yes	2				0	no	no
DSI	199	Chase River	yes	yes	no	2	TFL			0	no	no
DSI	200	Brennen Lake	yes	yes	no	2	MoF	PAA00401		0	no	no
DSI	201	Lantzville	yes	no	yes	2	MoF	PAA00401		0	no	no
DSI	202	Bonell Creek	yes	yes	yes	2	MoF	PAA00401		0	no	no
DSI	203	Englishman River	yes	yes	yes	2				0	no	no
DSI	204	Nanoose Creek	yes	yes	no	2				0	no	no
DSI	205	French Creek	yes	no	no	2	MoF	PAA00401		0	no	no
DSI	206	Little Qualicum River	yes	yes	yes	2	MoF	PAA00401		0	no	no
DSI	207	Cameron River	yes	yes	yes	2	Weyerhaeuser			0	no	no
DSI	208	Walbran Creek	no	no	no	5	TFL			0	no	no
DSI	209	Camper Creek	no	no	no	3	MoF			1,2,3,4	no	no
DSI	210	Caycuse River	no	no	no	3	Weyerhaeuser	PAM98407	Ditidaht FN	2,3	yes	no
DSI	211	Carmanah Creek	no	no	no	2	Weyerhaeuser			0	no	no
DSI	212	Nitinat River	yes	yes	yes	6A	Weyerhaeuser	PAM98407		2,3	no	yes
DSI	213	Nitinat Lake	yes	no	yes	6A	Weyerhaeuser	PAM98407	Ditidaht FN	2,3	no	yes
DSI	214	Tsusiat River	no	no	no	5				0	no	no
DSI	215	Klanawa/Darling	yes	yes	no	6A	Weyerhaeuser	PAM98407		2,3	no	yes

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DSI	216	Sarita	yes	no	yes	1	Weyerhaeuser	PAM98407	Hu-Ay-Aht	1,2,3	no	yes
DSI	217	Franklin/Corrigan	no	no	no	2	MoF	PAA00401		2,3	no	no
DSI	218	Stamp River	yes	yes	yes	6A	MoF	PAA00401		2,3,4	no	yes
DSI	219	Qualicum River	no	no	no	2	MoF	PAA00401		0	no	no
DSI	220	Nile Creek	yes	no	yes	5	MoF	PAA00401		0	no	no
DSI	221	Rosewall Creek	no	no	no	3	MoF	PAA00401		1,2,3,4	no	no
DSI	222	Tsable/Wilfred	no	no	no	3	MoF	PAA00401		0	no	no
DSI	223	Ash River	yes	yes	yes	2	Weyerhaeuser			0	no	no
DSI	224	Great Central Lake	yes	no	yes	5	Weyerhaeuser			0	no	no
DSI	225	Sproat Lake	yes	yes	yes	6A	Weyerhaeuser	PAM98407		2,3	no	yes
DSI	226	Bedwell River	no	no	no	2	Weyerhaeuser			2,3	no	no
DSI	227	Moyeha River	no	no	no	5				0	no	no
DSI	228	Megin River	no	no	no	5	Weyerhaeuser			0	no	no
DSI	229	Mt. Bourke	no	no	no	3	Interfor			0	no	no
DSI	230	Sydney River	no	no	no	3	Interfor			0	no	no
DSI	231	Mooyah River	no	no	no	6A	Interfor			1,2,3	no	no
DSI	232	Escalante River	no	no	no	6A	Interfor			1,2,3,4	yes	no
DSI	233	Hesquiate Penninsula	no	no	no	5				0	no	no
DSI	234	Hesquiate Lake	no	no	no	3	MoF	PAA00401	Interfor	2,3	yes	no
DSI	235	Rondeault Point	yes	no	yes	1				3	no	yes
DSI	236	Hot Springs Cove	yes	no	yes	6A	MoF	PAA00401	Hesquiaht FN	2,3,4	no	yes
DSI	237	Flores Island	yes	no	yes	6A	Weyerhaeuser		Ahousaht FN	2,3,4	no	yes
DSI	238	Atleo (LU)	no	no	no	3	Interfor	PAM98408		4	yes	no
DSI	239	Cypre River	yes	yes	no	1	Weyerhaeuser	PAM98407	Ahousaht FN	2,3	no	yes
DSI	240	Cotter Creek	no	no	no	6A	Interfor			1,2,3,4	yes	no
DSI	241	Matlset	no	no	no	3	MoF	PAA00401		1,2,3,4	no	no
DSI	242	Bulson River	no	no	no	3	Weyerhaeuser			2,3	yes	no
DSI	243	Meares Island	yes	no	yes	5	Interfor			0	no	no
DSI	244	Rolling Stone	no	no	no	3	Weyerhaeuser			1,2,3,4	no	no
DSI	245	Tranquil Creek	no	no	no	3	Weyerhaeuser	PAM98407		1,2,3	Yes	no
DSI	246	Tofino Creek	no	no	no	3	Weyerhaeuser			2,3	yes	no
DSI	247	Clayoquot River	no	no	no	3				1	no	no
DSI	248	Kennedy River	no	no	no	6A	Interfor	PAM98408		1,2,3	no	no
DSI	249	Kennedy Flats	no	no	no	3	Weyerhaeuser	PAM98407		1,2,3	yes	no
DSI	250	Toquart	no	no	no	3	Weyerhaeuser			1,2,3,4	yes	no
DSI	251	Effingham	no	no	no	3	Weyerhaeuser			0	no	no
DSI	252	Henderson	no	no	no	3	Weyerhaeuser	PAM98407	Uchucklesaht	2,3	yes	no
DSI	253	Nahmint	yes	yes	no	1	Weyerhaeuser	PAM98407		1,2	no	yes
DSQ	254	Ashlu Creek	yes	yes	no	1	Interfor		none	1	no	yes
DSQ	255	Cheakamus River	yes	yes	yes	5	Western		none	0	no	no
DSQ	256	Brandywine River	no	no	no	3	Western	PAM98204	none	3	yes	no
DSQ	257	Callaghan River	no	no	no	3	Western		none	0	no	no
DSQ	258	Cheekeye River	no	no	no	3			none	0	no	no
DSQ	259	Culliton Creek	no	no	no	3			none	0	no	no

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DSQ	260	Pilchuk Creek	no	no	no	3			none	0	no	no
DSQ	261	Elaho River	no	no	no	3			none	0	no	no
DSQ	262	Clendenning Creek	no	no	no	3			none	0	no	no
DSQ	263	Sims Creek	no	no	no	3			none	0	no	no
DSQ	264	Mashiter Creek	yes	no	yes	6A	MoF	PAA00201	none	4	no	yes
DSQ	265	Mamquam River	yes	yes	yes	6A	Weyerhaeuser	PAM98207	none	4	no	yes
DSQ	266	Squamish River	yes	yes	no	1	Interfor	PAM98208	none	1	no	yes
DSQ	267	Fire Creek	no	no	no	3	Squamish Mills		none	3	yes	no
DSQ	268	Sloquet Creek	no	no	no	3	Canfor		none	0	no	no
DSQ	269	Douglas Creek	no	no	no	5			none	0	no	no
DSQ	270	Gowan Creek	no	no	no	3	Interfor	PAM98208	none	3	yes	no
DSQ	271	Rogers Creek	no	no	no	3	Interfor		none	0	no	no
DSQ	272	Lizzie Creek	no	no	no	3	Interfor		none	0	no	no
DSQ	273	Twin One Creek	no	no	no	3	Interfor	PAM98208	none	3	yes	no
DSQ	274	Joffre Creek	no	no	no	3			none	0	no	no
DSQ	275	Miller Creek	no	no	no	3			none	0	no	no
DSQ	276	Birkenhead River	yes	yes	yes	5	MoF	PAA00201	none	0	no	no
DSQ	277	Ryan River	yes	yes	no	5			none	0	no	no
DSQ	278	South Creek	no	no	no	3			none	0	no	no
DSQ	279	Meager Creek	no	no	no	3	CRB	PAM99001	none	3	yes	no
DSQ	280	North Creek	no	no	no	3			none	0	no	no
DSQ	281	Rutherford River	no	no	no	3	Western	PAM98204	none	3	yes	no
DSQ	282	Soo River	no	no	no	3	Richmond Ply	PAM99001	none	3	yes	no
DSQ	283	Green River	yes	no	yes	5	MoF		none	0	no	no
DSQ	284	Ure Creek	no	no	no	3			none	0	no	no
DSQ	285	Kakila Creek	no	no	no	3	Canfor	MOF	none	1	no	no
DSQ	286	Billygoat Creek	no	no	no	3			none	0	no	no
DSQ	287	Tuwasus Creek	no	no	no	3			none	0	no	no
DSQ	288	Snowcap Creek	no	no	no	3			none	0	no	no
DSQ	289	Britannia Creek	yes	no	yes	6A	Richmond Ply	PAM99001	none	3	no	yes
DSQ	290	Furry Creek	no	no	no	3	MoF	PAA00201	none	4	yes	no
DSQ	291	Deeks Creek	no	no	no	5	Terminal		none	0	no	no
DSQ	292	Indian River	yes	yes	no	1	Interfor			3	no	yes
DSQ	293	Kallahne Creek	no	no	no	3	MoF	PAA00201	none	4	yes	no
DSQ	294	Stawamus Creek	yes	no	yes	6A	MoF	PAA00201	none	3	no	yes
DSQ	295	Woodfibre Creek	no	no	no	3			none	0	no	no
DSQ	296	Shannon Creek	no	no	no	3			none	0	no	no
DSQ	297	Thistle Creek	no	no	no	3			none	0	no	no
DSQ	298	Lions Bay	no	no	no	3			none	0	no	no
DSQ	299	Mill Creek	no	no	no	3			none	0	no	no
DSQ	300	Upper Lillooet River	yes	yes	no	5			none	0	no	no
DSQ	301	Middle Lillooet River	yes	yes	no	5	CRB		none	0	no	no
DSQ	302	Lillooet Lake	yes	yes	no	6A	Squamish Mills	PAM99001	none	3	no	yes
DSQ	303	Lower Lillooet River	yes	yes	no	5			none	0	no	no

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DCR	304	Apple River	no	no	no	3	Western		none	0	no	no
DCR	305	Stafford River	no	no	no	5	Western			0	no	no
DCR	306	Frazer River	no	no	no	5	Western		none	0	no	no
DPM	307	Wakash Creek	no	no	no	5				0	no	no
DPM	308	Blind Creek	no	no	no	5				0	no	no
DPM	309	Millard Creek	no	no	no	5				0	no	no
DPM	310	Franklin River	no	no	no	3	Interfor			4	no	no
DPM	311	Devereaux Creek	no	no	no	3	Interfor	PAM98608		4	no	no
DPM	312	Lower Klinaklini River	no	no	no	3	Interfor	PAM98608		4	no	no
DPM	313	Ahnuhati River	no	no	no	5				0	no	no
DPM	314	Kwalate Creek	no	no	no	5	Interfor			0	no	no
DPM	315	Sim Creek	no	no	no	5	Interfor			0	no	no
DPM	316	West Klinaklini River	no	no	no	3	Interfor	PAM98608		4	no	no
DPM	317	Atway/Kelesse River	no	no	no	3	Interfor			0	no	no
DPM	318	Wakeman River	yes	yes	no	1	Interfor			1	no	yes
DPM	319	Kingcome River	yes	no	yes	1	Interfor			1	no	yes
DPM	320	Atlatzi River	no	no	no	3	Interfor	PAM98608		2	no	no
DPM	321	Satsalla River	yes	no	yes	1	Interfor			0	no	yes
DPM	322	Kakweikin River	no	no	no	3	Interfor	PAM98608		1	no	no
DPM	323	Sallie Creek	no	no	no	3	Interfor	PAM98608		4	no	no
DCK	324	Matsin Creek	no	no	no	3					no	no
DPM	325	McAlister Creek	no	no	no	3	Interfor			1	no	no
DPM	326	Lull Creek	no	no	no	5	Weyerhaeuser			0	no	no
DPM	327	Seymour River	no	no	no	5				0	no	no
DCR	328	Tom Browne Creek	yes	yes	no	6A	Western	PAM 98505	none	3	no	yes
DCR	329	Read Creek	no	no	no	3	TFL	PAM 98505	none	3	yes	no
DCR	330	Heydon Creek	no	no	no	4	Western		none	0	no	no
DCR	331	Wortley Creek	no	no	no	3	TFL		none	2,3	yes	no
DCR	332	Fulmore River	no	no	no	3	TFL	PAM 98505	none	4	no	no
DPM	333	Ahta River	no	no	no	3				0	no	no
DPM	334	Miriam	no	no	no	5				0	no	no
DPM	335	Charles Creek	no	no	no	5				0	no	no
DCK	336	Waymus Creek	no	no	no	3					no	no
DPM	337	Taatz Creek	no	no	no	5				0	no	no
DPM	338	Huaskin Lake	no	no	no	5				0	no	no
DPM	339	Gilford Island	no	no	no	5	Interfor			1	no	no
DPM	340	Broughton Island	no	no	no	5				0	no	no
DPM	341	Woss Lake	no	no	no	3	Canfor	PAM98603	Namgis FN	3	yes	no
DPM	342	Davie River	yes	yes	no	6A	Canfor	PAM98603	Namgis FN	3	no	yes
DPM	343	Lukwa	yes	yes	no	1				0	no	yes
DPM	344	Maquilla River	no	no	no	3	Canfor	PAM98603	Namgis FN	3	yes	no
DPM	345	Kaipit Creek	yes	yes	no	6A	Canfor	PAM98603	Namgis FN	3	no	yes
DPM	346	Atluck Creek	yes	yes	no	6A	Canfor	PAM98603	Namgis FN	3	no	yes
DPM	347	Kilpala	yes	yes	no	6A	Canfor	PAM98603	Namgis FN	3	no	yes

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DPM	348	Middle Nimpkish	yes	yes	no	6A	Canfor	PAM98603	Namgis FN	3	no	yes
DPM	349	Upper Nimpkish	no	no	no	3	Canfor	PAM98603	Namgis FN	3	no	no
DPM	350	Nimpkish Lake	no	no	no	3	Canfor	PAM98603	Namgis FN	3	no	no
DPM	351	Tsitika River	yes	yes	no	6A	Canfor	PAM98603	Namgis FN	3	no	yes
DCR	352	Naka Creek	no	no	no	3	Western		none	4	no	no
DPM	353	Bonanza Creek	yes	yes	no	6A	TFL	PAM98605	none	3	no	yes
DPM	354	Kokish River	yes	yes	no	6A	TFL	PAM98605	none	3	no	yes
DPM	355	Tsulton River	yes	yes	no	6A	Canfor	PAM98603	Namgis FN	4	no	yes
DPM	356	Kaikash	no	no	no	3	Weyerhaeuser			4	no	no
DPM	357	Cluxewe River	no	no	no	3	Weyerhaeuser			0	no	no
DPM	358	Port McNeill	no	no	no	3				0	no	no
DPM	359	Waukwaas River	no	no	no	5	Western			0	no	no
DPM	360	Marble River	yes	yes	no	1	Western	PAM98604		2	no	yes
DPM	361	Keogh River	yes	yes	no	1	Western	PAM98604		3	no	yes
DPM	362	Suquash Creek	no	no	no	3	Western			1	no	no
DPM	363	Benson River	yes	yes	no	1	Weyerhaeuser			3	no	yes
DPM	364	Colonail	yes	yes	no	1	Western			3	no	yes
DPM	365	Neroutsos North	no	no	no	3	Western			0	no	no
DPM	366	Neroutsos South	no	no	no	3	Western			0	no	no
DPM	367	Klaskish	no	no	no	3				0	no	no
DPM	368	Mahatta Creek	yes	yes	no	6A	Western	PAM98604		4	no	yes
DPM	369	Kewquodie	no	no	no	3	Western			3	yes	no
DPM	370	Brooks	no	no	no	3				0	no	no
DPM	371	Kwakiutl Point	no	no	no	3	Interfor			3	yes	no
DPM	372	Winter Harbour	no	no	no	3				0	no	no
DPM	373	Koprino River	no	no	no	3	Western			4	no	no
DPM	374	Hathaway Creek	no	no	no	3	Western			3	yes	no
DPM	375	MacJack	no	no	no	3	Western			1	no	no
DPM	376	Cape Palmerston	no	no	no	5				0	no	no
DPM	377	San Josef	no	no	no	3	Western	PAM98604		3	yes	no
DPM	378	Goodspeed	no	no	no	3	Western	PAM98604		3	yes	no
DPM	379	Wanokana Creek	no	no	no	3	Western	PAM98604		3	yes	no
DPM	380	Quatse River/Booth Creek	yes	no	yes	5				0	no	no
DPM	381	Storey's Beach	no	no	no	3				0	no	no
DPM	382	Tsulquate	yes	no	yes	5				0	no	no
DPM	383	Songhee River	no	no	no	5				0	no	no
DPM	384	Shushartie River	no	no	no	5				0	no	no
DPM	385	Nahwitti River	no	no	no	3				0	no	no
DPM	386	Stranby River	no	no	no	3	Western			1	no	no
DPM	387	Cape Scott	no	no	no	3	Western			1	no	no
DSC	388	Allaire Creek	no	no	no	5	Interfor			0	no	no
DSC	389	Bishop River	no	no	no	5	Interfor			0	no	no
DSC	390	Southgate River	yes	yes	no	5	Interfor			0	no	no
DSC	391	Teaquaham River	no	no	no	3	Terminal			2	no	no

MoF District	Watershed Unit	Watershed Name	Key Watershed	Priority for Fish	Priority for Water	Category	Recipient	MYA Number	Partners	Status of Work	Transition Watershed	Target Watershed
DSC	392	Heakamie River	no	no	no	3	Terminal			0	no	no
DSC	393	Klattasine River	no	no	no	5	Interfor			1	no	no
DSC	394	Scar Creek	no	no	no	5	Interfor			1	no	no
DSC	395	Jones Creek	no	no	no	5	Interfor			0	no	no
DSC	396	Homathco River	yes	yes	no	1				0	no	yes
DSC	397	Orford River	yes	yes	no	1	Interfor			1	no	yes
DCR	398	Phillips River	no	no	no	3	Weyerhaeuser	PAM 98507		3	yes	no
DSC	399	Bear River	no	no	no	5	Interfor			0	no	no
DSC	400	Brem River	no	no	no	3	Interfor			2	no	no
DSC	401	Filer Creek	no	no	no	5	Interfor			0	no	no
DSC	402	Klite River	yes	yes	no	5	Interfor			0	no	no
DSC	403	Little Toba River	no	no	no	5	Interfor			1	no	no
DSC	404	Toba River	no	no	no	3	Interfor	PAM98308		3	yes	no
DSC	405	Tahumming River	no	no	no	3	Interfor			2	no	no
DSC	406	Moh Creek	yes	yes	no	6A	Interfor			3	no	no
DSC	407	Quatam River	yes	yes	no	6A	Interfor	PAM98308		3	no	yes
DSC	408	Theodosia/Olsen River	yes	yes	no	6A	Weyerhaeuser	PAM98307	Sliammon	2,3	no	yes
DSC	409	Daniels River	no	no	no	3	Weyerhaeuser	PAM98307		3	yes	no
DSC	410	Eldred River	no	no	no	3	Weyerhaeuser	PAM98307	Sliammon	3	yes	no
DSC	411	Powell River	no	no	no	3	Weyerhaeuser	PAM98307		4	yes	no
DSC	412	Freda Creek	no	no	no	3	Weyerhaeuser			2	no	no
DSC	413	Lois River	no	no	no	3	Weyerhaeuser			2,3,4	yes	no
DSC	414	Texada Island	yes	no	yes	5				0	no	no
DSC	415	Brittain River	no	no	no	5				0	no	no
DSC	416	Deserted River	yes	yes	no	5				0	no	no
DSC	417	Hunaechin Creek	no	no	no	3	Interfor			0	no	no
DSC	418	Stakawus Creek	no	no	no	3	Interfor			0	no	no
DSC	419	Vancouver River	no	no	no	5	Interfor			1	no	no
DSC	420	High Creek	no	no	no	5	Interfor			0	no	no
DSC	421	Tzoonie River	no	no	no	6A	Interfor	PAM98308		3	yes	no
DSC	422	Clowhom River	no	no	no	3	Interfor			1	no	no
DSC	423	Lang Creek	yes	no	yes	6A	Western	PAM98304		4	no	yes
DSC	424	Skwawka River	no	no	no	3	Interfor			1	no	no
DSC	425	Sechelt Creek	yes	no	yes	6A	Canfor	PAM98303	none	3	no	yes
DSC	426	Thornhill Creek	no	no	no	4	Canfor		none	2	no	no
DSC	427	Potlatch Creek	no	no	no	3	Canfor		none	2	no	no
DSC	428	McNab Creek	no	no	no	3	Canfor			2	no	no
DSC	429	Misery Creek	no	no	no	3	Terminal			0	no	no
DSC	430	Rainy River	no	no	no	3	Canfor			0	no	no
DSC	431	McNair Creek	yes	no	yes	1	Canfor		none	2	no	yes
DSC	432	Wilson Creek	no	no	no	3	Canfor	PAM98303	none	4	yes	no
DSC	433	Chapman Creek	yes	no	yes	6C	Interfor	PAM98308		3	no	yes
DSC	434	Gray Creek	yes	no	yes	6A	Interfor	PAM98308		3	no	yes
DSC	435	Earle Creek	no	no	no	3	Western	PAM98304		1	no	no

MoF District	Watershed Unit	Watershed Name	Key Watershed	Priority for Fish	Priority for Water	Category	Recipient	MYA Number	Partners	Status of Work	Transition Watershed	Target Watershed
DSC	436	Sechelt Penninsula	no	no	no	3				0	no	no
DSC	437	Murtle Creek	no	no	no	3				0	no	no
DSC	438	Seshal Creek	no	no	no	3	Interfor			1	no	no
DSC	439	Perkett Creek	no	no	no	4	Interfor			0	no	no
DSC	440	Treat Creek	no	no	no	4	Interfor			0	no	no
DSC	441	Narrows Inlet	no	no	no	3	Interfor	PAM98308		3	yes	no
DSC	442	Sliammon Lake	yes	yes	yes	5				0	no	no
DMC	443	Neechantz River	no	no	no	3	Western			1	no	no
DMC	444	Machmell River	no	no	no	6C	Western			3	yes	no
DMC	445	Sheemahant River	yes	yes	no	6AC	Western			3	no	yes
DMC	446	Lemolo Creek	no	no	no	6C	Western			4	no	no
DMC	447	Talchako River	yes	yes	yes	6C	Interfor		IWA	0	no	no
DMC	448	Noomst Creek	no	no	no	3	Interfor		IWA	0	yes	no
DMC	449	Nusatsum River	yes	yes	yes	1	Interfor		IWA	0	no	yes
DMC	450	Nooklikonnik Creek	no	no	no	3	Interfor		IWA	0	no	no
DMC	451	Snootli Creek	no	no	no	3				0	no	no
DMC	452	Thorsen Creek	no	no	no	3	MoF			0	no	no
DMC	453	Smitley Creek	no	no	no	3	Interfor		IWA	0	no	no
DMC	454	Noeick Creek	no	no	no	5	Interfor		IWA	0	no	no
DMC	455	Taleomy River	no	no	no	5	Interfor		IWA	0	no	no
DMC	456	Asseek River	no	no	no	3	Interfor		IWA	0	no	no
DMC	457	Wahwash River	no	no	no	3				4	no	no
DMC	458	Inziana River	no	no	no	5	Interfor		IWA	4	no	no
DMC	459	Kwatna River	yes	yes	no	6A	Interfor		IWA	1	no	yes
DMC	460	Chuckwalla River	yes	yes	no	6C	Western	PAM98704		1	no	yes
DMC	461	Kilbella River	yes	yes	no	6C	Western			1	no	yes
DMC	462	Clyak River	no	no	no	5	Interfor		IWA	0	no	no
DMC	463	Ickna River	no	no	no	3				0	no	no
DMC	464	Tzeo River	no	no	no	3				4	no	no
DMC	465	Hot Springs Creek	no	no	no	3				0	no	no
DMC	466	Thowals	no	no	no	3				0	no	no
DMC	467	Doc	no	no	no	3	Weyerhaeuser			3	no	no
DMC	468	Nootum River	yes	yes	no	1	Weyerhaeuser	PAM98707		3	no	yes
DMC	469	Milton,Inrig	no	no	no	3	Western	PAM98704		3	yes	no
DMC	470	Koeye River	no	no	no	3	Weyerhaeuser			0	no	no
DMC	471	Ashlum Creek	no	no	no	3				0	no	no
DMC	472	Sowick	no	no	no	3				0	no	no
DCR	473	Piper River	yes	yes	no	1	Western		none	0	no	yes
DMC	474	Smokehouse Creek	no	no	no	3				0	no	no
DMC	475	Nicknaqueet	no	no	no	3	MoF		Oweekno FN	3	yes	no
DMC	476	Clayton Falls Creek	no	no	no	6A	Interfor	PAM98708	IWA	4	yes	no
DMC	477	Tatsquan	no	no	no	3				0	no	no
DMC	478	Nieimiammus	no	no	no	5	Interfor		IWA	0	no	no
DMC	479	Nooseck River	no	no	no	5	Interfor		IWA	0	no	no

MoF District	Watershed Unit	Watershed Name	Key Watershed	Priority for Fish	Priority for Water	Category	Recipient	MYA Number	Partners	Status of Work	Transition Watershed	Target Watershed
DMC	480	Necleetsconnay River	no	no	no	3	Interfor		IWA	0	no	no
DMC	481	Salloomt River	yes	yes	no	1	Interfor		IWA	0	no	yes
DMC	482	Tseapseahoolz Creek	no	no	no	4				0	no	no
DMC	483	Noosgulch River	no	no	no	6A	Interfor	PAM98708	IWA	3	yes	no
DMC	484	Jump Across Creek	no	no	no	3				0	no	no
DMC	485	Humpback Creek	no	no	no	3				0	no	no
DMC	486	Swallop Creek	no	no	no	3				0	no	no
DMC	487	Sutslem Creek	no	no	no	3				0	no	no
DMC	488	Sakumtha River	no	no	no	3				0	no	no
DMC	489	Kimsquit River	yes	yes	yes	1	MoF			0	no	yes
DMC	490	King George Creek	no	no	no	3				0	no	no
DMC	491	Campbell Island	no	no	no	3	Western			3	yes	no
DMC	492	Bella Colla River	yes	yes	no	1	Interfor	PAM98708	IWA	0	no	yes
DMC	493	Young Creek	no	no	no	3	Interfor		IWA	0	no	no
DMC	494	Roscoe Creek	no	no	no	3				4	no	no
DMC	495	Link River	no	no	no	3				4	no	no
DMC	496	Martin River	no	no	no	3				4	no	no
DMC	497	Clatse Creek	no	no	no	3				0	no	no
DMC	498	Ellerslie Creek	no	no	no	3				0	no	no
DMC	499	Mooto Creek	no	no	no	3				0	no	no
DMC	500	McPherson Creek	no	no	no	3				0	no	no
DMC	501	Tankleah R./Cheenis Lake	no	no	no	3				0	no	no
DMC	502	Pooley Island	no	no	no	3				0	no	no
DMC	503	Cascade	no	no	no	3				0	no	no
DMC	504	Snowquiltz River	no	no	no	3				0	no	no
DMC	505	Nuash Creek	no	no	no	3				0	no	no
DMC	506	White Cliff Point	no	no	no	3				0	no	no
DMC	507	Labouchere Channel East	no	no	no	3				0	no	no
DMC	508	King Island	no	no	no	3	Interfor		IWA	0	no	no
DMC	509	Dean River	yes	yes	no	1	Western			0	no	yes
DMC	510	Bernhardt Creek	no	no	no	3				0	no	no
DMC	511	Bottleneck Creek	no	no	no	3				0	no	no
DMC	512	Sigutlat Lake	no	no	no	3				0	no	no
DMC	513	Atnarko River	no	no	no	6C				0	no	no
DMC	514	North Klinaklina River	no	no	no	3				0	no	no
DMC	515	Takia River	no	no	no	3				0	no	no
DMC	516	Rainbow	no	no	no	5				0	no	no
DMC	517	Nacall River	no	no	no	3				0	no	no
DMC	518	Doos Creek	no	no	no	3				0	no	no
DMC	519	Dallery Creek	no	no	no	3				0	no	no
DMC	520	Sandell River	no	no	no	3				0	no	no
DMC	521	Allard Creek	no	no	no	5				0	no	no
DCR	522	Eliza	no	no	no	5	Western		none	0	no	no
DCR	523	Narrowgut	no	no	no	5	Interfor		none	0	no	no

MoF District	Watershed Unit	Watershed Name	Key Watershed	Priority for Fish	Priority for Water	Category	Recipient	MYA Number	Partners	Status of Work	Transition Watershed	Target Watershed
DCR	524	Kaouk River	yes	yes	no	5			none	0	no	no
DCR	525	Artlish River	no	no	no	3	TFL	PAM 98503	IWA	2,3	yes	no
DCR	526	Kauwinch River	no	no	no	3	Interfor	PAM 98508	none	3	yes	no
DCR	527	Malkslope/Power/Kashutl	no	no	no	6A	Interfor	PAM 98508	FN	4	yes	no
DCR	528	Kyuquot	no	no	no	3	Interfor	PAM 98508	FN	3	yes	no
DCR	529	Nasparti	no	no	no	5				0	no	no
DMC	530	Upper Klinaklin River	no	no	no	3				0	no	no
DCR	531	Tashish	no	no	no	3	Canfor	PAM 98503	IWA	2,3	yes	no
DSI	532	Cous Creek	no	no	no	3	Weyerhaeuser			1,2,3,4	yes	no
DSI	533	Pachena River	no	no	no	5	Weyerhaeuser			0	no	no
DSI	534	Cobble Hill	no	no	no	2				0	no	no
DSI	535	Indian Bay	no	no	no	3				0	no	no
DCR	536	Haana Channel	no	no	no	3				0	no	no
DPM	537	Pine Creek	no	no	no	6				4	no	no
DSC	538	Haslam Creek	no	no	yes	5						
DMC	539	Nekite River	no	yes	no	6C				0	no	no
DMC	540	Owileno Lake	no	no	no	5				0	no	no
DMC	541	Quatlena River	no	no	no	5				0	no	no
DMC	542	Ashlulm Creek	no	no	no	5				0	no	no
DSQ	544	Gates	no	no	no	5	Interfor			0	no	no
DSQ	545	Spruce	yes	no	yes	1	MoF			0	no	yes
DSQ	546	Haylmore	no	no	no	5	MoF			0	no	no

5.0 VOLUME 2

STRENGTHENING SUSTAINABLE FOREST MANAGEMENT

5.1 Introduction

The MOF and the MELP are working with staff from the forest industry and FRBC to develop the component of Resource Management Plans (RMP) aimed at the strategic objective of Strengthening Sustainable Forest Management (SSFM). The intent is to focus the gathering, organizing and analyzing of information on filling identified knowledge gaps, for use in longer-term strategic planning initiatives relevant to the SSFM strategic objective. This RMP component, along with those for Sustainable Harvest (SH) and EEV will guide FRBC in its investment planning process for the 2000/01 fiscal year.

The SSFM RMP identifies priorities for investments incorporating all resource management objectives. The sources of funding for these investments may include FRBC funds, as well as funds from other sources, including partnerships. Criteria for determining priorities herein are focused on meeting both FRBC's strategic objectives, and the MOF's and MELP's resource management objectives.

The information needs are identified and prioritized in terms of filling knowledge gaps for strategic resource management planning regardless of potential funding sources. The RMP lists funding recommendations for projects that are specifically eligible for funding by FRBC according to their approved eligibility requirements.

5.2 Purpose

Filling identified knowledge gaps is a key step in improving the strategic decision making processes that may enable British Columbia to fully achieve long-term sustainable forest management. FRBC's SSFM strategic objective is focused on providing more up to date information and better planning tools that can be used to improve existing strategic level planning processes. Support for the ongoing development and adoption of new, innovative approaches to strategic level planning is also a main focus of FRBC. This strategy also addresses the needs of the various ministries by filling key information gaps, thereby enabling the agencies to manage resources sustainably.

In developing the RMPs for fiscal year 2000/01, the focus was on filling knowledge gaps related to existing strategic decision-making processes (i.e., the determination of the Allowable Annual Cut for Timber Supply Areas or Tree Farm Licenses, and the implementation of regional and sub-regional strategic land use plans). This supports both ministries' and FRBC objectives.

The degree of uncertainty surrounding strategic forest management decision making relates directly to the type and quality of information available. Information that is poor quality, outdated, or lacking puts the environment and the potential resource development opportunities at greater risk. Strengthening the knowledge base will, from a resource perspective, provide greater certainty about the sustainability of those resources, and potentially resolve outstanding issues identified during the implementation of strategic level planning processes.

The greatest challenge that was addressed in building the SSFM portion of the RMP was directly linking, priorizing and co-ordinating the knowledge building activities with the strategic decision making processes.

5.3 Process and Procedures

The SSFM RMP building process for 2000/01 followed a similar process to that used for building the SSFM RMP for the current fiscal year (i.e., 1999/00). An Excel spreadsheet was created and distributed by MOF (Mike Connor) to all MOF Districts, MOF Regional staff specialists, and the forest industry (MYA holders). A more detailed SSFM template Excel spreadsheet was created and distributed by MELP (Carla Lenihan and Bill Jex, MELP Region 2) to MELP Regions (within the FRBC Pacific Region), and MELP staff specialists. The spreadsheets were designed to gather specific information needs by Management Unit (TSA, TFL or MELP Region) and strategic planning need (TSR or SLUP implementation), together with supporting discussion and rationale and project details (e.g., inventory type, scale, area, cost, etc.). The spreadsheets were accompanied by instructions for their completion and return to the MOF/MELP SSFM co-ordinators.

The spreadsheets and instructions were distributed on July 23, 1999, and most SSFM RMP project proposals were received and entered in an Access database (compatible with the Provincial Access database managed by MOF Corporate Policy Branch) by mid-August 1999. Copies of the spreadsheets and instructions are given in Appendix A).

The overall response to the request for SSFM project proposals was overwhelming. Over $32 million in project requests were identified for all Management Units within the FRBC Pacific Region (Appendix B). Projects involving research, analysis and organization of information were part of the request for filling identified knowledge gaps, although the primary focus of the requests were for inventories.

5.4 Resource Management Issues

It is clear from the client response that filling knowledge gaps associated with inventory information is considered the highest priority for planning sustainable forest management and identifying resource development opportunities. Incorporating best available information for use in the strategic planning processes of the ministries appears to be paramount to licensees. It will likely take several years to a decade before many of these basic inventory knowledge gaps are filled. Projects are then likely to shift more towards information integration, long-term sustainability planning, organization and analysis.

Timber Supply Reviews and implementation of Strategic Land Use Plans (SLUP's) are not currently inhibited by any one specific type of knowledge gap. Priority inventory needs were assessed and determined based upon the Management Unit, it's resource diversity, environmental issues and the resource development history. The recommendations of the Chief Forester in the past annual allowable cut (AAC) determinations and the MELP business plan for 1999-2001 were key to these assessments and determinations. Specific implementation recommendations from SLUP's (e.g., Vancouver Island Strategic Land Use Plan) in terms of priority knowledge gaps were also incorporated into the RMP prioritization process.

5.5 Recommended List of Resource Activities for Forest Renewal BC

The table in Appendix B entitled "**FRBC – Pacific Region – SSFM**" provides the list of inventories requested by the clients groups for each Management Unit. Included in the development of this table is an assessment of the high priority projects which the ministries are recommending to FRBC for funding. The recommended projects are color shaded for highlighting and summed for MOF and MELP inventory types at the end of the report. These recommendations are based on resource management priorities only, and do not directly consider the social and other related goals, objectives and strategies of FRBC.

5.6 Communication Report

Strong lines of communication were established early in the SSFM RMP building process and these were maintained throughout the life of the process. Initially, the MOF and MELP agreed to co-ordinate their RMP development process, through the utilization of common forms, instructions, and a database compatible with the MS Access Provincial database. Primary contacts for each of the major licensees (MYA holders) were then determined and their input was solicited. Since MELP has four Regional boundaries falling within the boundaries of the FRBC Pacific Region MELP selected one staff representative (Carla Lenihan) to co-ordinate the input of all four MELP Regions Regions 1 & 2 and parts of Regions 5 & 6). The MOF designate was Mike Connor, Land Information Manager, of the Vancouver Forest Region Office (Nanaimo).

The co-ordinators received and assessed the input from the MYA holders, together with the input from their own ministry's Regions and Districts. The co-ordinators kept open lines of communication with each other and with all their respective clients throughout the process. Many e-mails and phone calls passed back and forth, particularly during August and early September, 1999.

On September 9, 1999, FRBC Pacific Region hosted a meeting to review progress on all components of the RMP. Staff from FRBC Pacific Region, MELP, MOF and the MYA holders met in Nanaimo for review and discussion of the initial (draft) program recommendations of the ministries. Following this meeting further revisions to the SSFM RMP were made, again with full and open communication between the participating parties. The project recommendations made in the preceding section reflect the exchange of ideas, interests and concerns that arose during this period of open dialogue.

Volume 2 Appendices

STRENGTHENING SUSTAINABLE FOREST MANAGEMENT

APPENDIX A

Data Entry Forms and Instructions for Making Knowledge Gap Project Requests under FRBC's Strengthening Sustainable Forest Management Program (used in 2000/01 Resource Management Plan Building Process)

Forest Renewal Plan

Inventory Requirements, Planning and Prioritization

Guidelines for Information Submissions

Process:

Generally, complete one or more "Identification and Documentation of Need" forms for each Management Unit (TSA or TFL) for which you have an interest. For each of these forms completed also complete one or more "Data Entry Sheets" where more specific inventory requirements, further to the documented needs, will be recorded. Steps and guidelines for each step follow:

Step 1:

Identify the planning initiative that is driving the inventory need requirements. Planning initiatives should fall into one or both of the following categories:

- Implementation of a Strategic Land Use Plan, e.g., Land and Resource Management Plans (LRMP), Vancouver Island Land Use Plans (VILUP
- Timber Supply Review for TSA or TFL

One "Identification and Documentation of Need" form can be completed per planning initiative or you may wish to enter more than one planning initiative on a single form if the planning initiatives will result in similar or identical inventory information requirements.

Step 2:

After the planning initiative(s) have been recorded, on the same form list the inventory requirements, by eligible inventory type, in the space provided (use codes). No details at this point need be recorded. Eligible inventory types include:

Inventory Type	**Inventory Code**
Archaeology Inventory Study	AIS
Archaeology Overview Assessment	AOA
Forest Health - Aerial Overview Survey	FHAOS
Forest Health - Survey for Pest Incidence	FHSPI
Forest Health - Other (specify)	FHO
Growth and Yield	G&Y
Recreation Features	RECFT
Recreation Opportunity Spectrum	RECOS
Recreation Visual Landscape	RECVL
Karst Topography	KARST
Rivers	RIVER
Terrain Stability Mapping	TSM
Terrestrial Ecosystem Mapping	TEM
Traditional Use Studies	TUS
Vegetation Resources - Photo Estimation	VRI1
Vegetation Resources - Ground Sampling	VRI2
Veg. Resources - Net Volume Adjust. Factors	VRIN
Veg. Resources - localization	VRIL

In addition, information organization and analysis and research is also to be considered in the area of filling knowledge gaps. If you have proposed projects that fall under one of these two categories describe them as succinctly and best as you can without using the above inventory codes.

Step 3:

In the space provided briefly discuss why the new inventory information is needed (i.e., there is a "knowledge gap" that needs to be filled), how it will be used in the TSR and/or the strategic land use plan's implementation. Also address:

- Date by which the information is required and when the project must be started by in order to meet the target date for when the information is needed.
- If the project will fill knowledge gaps for more than one strategic purpose, be sure to describe and highlight this.
- Give your subjective comments on project cost/benefit, i.e., relative to time and money invested how do you see the project's relative (to other potential project opportunities) value in returns. Use High, Medium or Low.
- Give comments on the project's feasibility. Is the project dependent on any other project? Conversely, will the project be a necessary pre-requisite to other needed projects? Are there any strategic or tactical stumbling-blocks that must be addressed to make the project a go? Is there any risk of the project not being able to be completed on time?

- You do not need to restrict your thinking to projects that are fundable by FRBC. We are wishing to compile a Regional strategy for filling all necessary strategic knowledge gaps, regardless of project funding sources.

- **Finally, if the Chief Forester has made the filling of a knowledge gap a priority in his AAC Rationale from the last Timber Supply review be sure to clearly indicate this. Also, if the Higher Level Plan specifically calls for the knowledge acquisition as a necessary prerequisite to plan implementation be sure to clearly indicate this.** Make a distinction between when new inventories are required and when existing inventories need to be updated and/or upgraded to meet the Resources Inventory Committee (RIC) standards.

Step 4:

Complete the associated "Data Entry Sheet". For each inventory type specified on the "Identification and Documentation of Need" form indicate the level (if applicable, e.g. FRBC will generally only fund TSM levels C and D mapping; levels A and B are generally considered to be a licensee's operational responsibility), required scale, the list of mapsheets (BC NTS) to be partially or totally inventoried, the total area (in hectares) of the project, the estimated unit costs (dollars per hectare; provide footnotes explaining any unit costs outside the "normal" range), the project's total cost (unit cost X hectares; therefore include any overhead and administrative costs in the estimated unit cost) and, finally, the project's priority from the proponent's perspective. Please use the following codes when entering priority information:

Priority	**Description**
1	Considered essential to meet top priority planning needs. Project should commence or continue in upcoming fiscal year, if possible.
2	Important, but project could commence within a 5 year planning horizon.
3	A longer term inventory need. Not essential to top priority or short term (within 5 years) planning requirements.

For projects other than inventories you can adapt the data entry form to best suit your needs or provide details on the proposed project using your own format (capture above information needs though).

Step 5:

Finally, attach a key map of appropriate small scale to the forms for each Management Unit/Planning initiative combination that shows the desired inventory area (one key map for each inventory type) across the BC NTS mapsheet grid.

Step 6:

Return all completed forms and key maps to Mike Connor, R.P.F., Land Information Manager, Vancouver Forest region (Mike.Connor@gems6.gov.bc.ca phone (250) 751-7128; fax 751-7198). **Deadline for submissions is August 9, 1999.** (remember needs omitted or overlooked cannot become part of the Regional Operational Inventory Program strategy). E-mail, internet or ftp replies are accepted and encouraged (hard copy key maps could follow later in mail or by fax.

Forest Renewal Plan

Inventory Requirements, Planning and Prioritization

Guidelines for Information Submissions

Process:

Generally, complete one or more "Identification and Documentation of Need" forms for each Management Unit (TSA or TFL) for which you have an interest. For each of these forms completed also complete one or more "Data Entry Sheets" where more specific inventory requirements, further to the documented needs, will be recorded. Steps and guidelines for each step follow:

Step 1:

Identify the planning initiative that is driving the inventory need requirements. Planning initiatives should fall into one or both of the following categories:

- Implementation of a Strategic Land Use Plan, e.g., Land and Resource Management Plans (LRMP), Vancouver Island Land Use Plans (VILUP
- Timber Supply Review for TSA or TFL

One "Identification and Documentation of Need" form can be completed per planning initiative or you may wish to enter more than one planning initiative on a single form if the planning initiatives will result in similar or identical inventory information requirements.

Step 2:

After the planning initiative(s) have been recorded, on the same form list the inventory requirements, by eligible inventory type, in the space provided (use codes). No details at this point need be recorded. Eligible inventory types include:

Inventory/Research Type	Inventory/Research Code
Wildlife & Wildlife Habitat	WWH
Fish & Fish Habitat	FH
Water Quality & Quantity	WQT
Research, above three types:	Add "R" to end of above codes

In addition, information organization and analysis is also to be considered in the area of filling knowledge gaps. If you have proposed projects that fall under this category describe them as succinctly and best as you can without using the above inventory/research codes.

Step 3:

In the space provided briefly discuss why the new inventory information is needed (i.e., there is a "knowledge gap" that needs to be filled), how it will be used in the TSR and/or the strategic land use plan's implementation. Also address:

- Date by which the information is required and when the project must be started by in order to meet the target date for when the information is needed.
- If the project will fill knowledge gaps for more than one strategic purpose, be sure to describe and highlight this.
- Give your subjective comments on project cost/benefit, i.e., relative to time and money invested how do you see the project's relative (to other potential project opportunities) value in returns. Use High, Medium or Low.
- Give comments on the project's feasibility. Is the project dependent on any other project? Conversely, will the project be a necessary pre-requisite to other needed projects? Are there any strategic or tactical stumbling-blocks that must be addressed to make the project a go? Is there any risk of the project not being able to be completed on time?
- You do not need to restrict your thinking to projects that are fundable by FRBC. We are wishing to compile a Regional strategy for filling all necessary strategic knowledge gaps, regardless of project funding sources.

- **Finally, if the Chief Forester has made the filling of a knowledge gap a priority in his AAC Rationale from the last Timber Supply review be sure to clearly indicate this. Also, if the Higher Level Plan specifically calls for the knowledge acquisition as a necessary prerequisite to plan implementation be sure to clearly indicate this.** Make a distinction between when new inventories are required and when existing inventories need to be updated and/or upgraded to meet the Resources Inventory Committee (RIC) standards.

Step 4:

Complete the associated "Data Entry Sheet". For each inventory type specified on the "Identification and Documentation of Need" form indicate the level , required scale, the list of mapsheets (BC NTS) to be partially or totally inventoried, the total area (in hectares) of the project, the estimated unit costs (dollars per hectare; provide footnotes explaining any unit costs outside the "normal" range), the project's total cost (unit cost X hectares; therefore include any overhead and administrative costs in the estimated unit cost) and, finally, the project's priority from the proponent's perspective. Please use the following codes when entering priority information:

Priority	**Description**
1	Considered essential to meet top priority planning needs. Project should commence or continue in upcoming fiscal year, if possible.
2	Important, but project could commence within a 5 year planning horizon.
3	A longer term inventory need. Not essential to top priority or short term (within 5 years) planning requirements.

For projects other than inventories you can adapt the data entry form to best suit your needs or provide details on the proposed project using your own format (capture above information needs though).

Step 5:

Finally, attach a key map of appropriate small scale to the forms for each Management Unit/Planning Initiative combination that shows the desired inventory area (one key map for each inventory type) across the BC NTS mapsheet grid.

Step 6:

Return all completed forms and key maps to Carla Lenihan, Wildlife/Habitat Inventory Biologist, Lower Mainland Region, MELP via e-mail: (clenihan@surrey.env.gov.bc.ca) **Deadline for submissions is August 16, 1999.** (remember needs omitted or overlooked cannot become part of the Regional Operational Inventory Program strategy).

From: Lenihan, Carla B.
Sent: Tuesday, July 20, 1999 5:12 PM
To: 'Jex, Bill A FOR:EX'; Jesson, Duane A.; Hollingshead, Eva; CHAPMAN, Brian B; Giroux(Paul A) ELP:EX; Sharpe(Ian D) ELP:EX; Sharpe(Sean T) ELP:EX; Kreye, Ross A.; Sager, John ELP:EX; Holroyd, Susan
Cc: Connor(Mike) FOR:EX; Closson(Don) FRBC:EX
Subject: FRBC Resource Management Planning for MELP under the new Strengthening Sustainable Forest Management (SSFM) [formerly Operational Inventory]

Hi all:

Please pass on to others that I may have missed, that should be included since we are in the midst of establishing contacts for this process.

Following our RMP meeting yesterday in Nanaimo we have some clearer direction on where to go from here, so that we can effectively input into the new FRBC funding/project prioritization model. Our (i.e. MELP's) priorities must be presented to MOF and FRBC in an FRBC Regional context. This means that not only will we have to develop a priority list within our own regions (incorporating Fish, Wildlife & Water Inventories onto one list) but also develop a summary list of all projects/priorities for all four MELP Regions (i.e. 1& 2 and portions of 5 & 6) contained within the FRBC Pacific Region (MOF Region 1). To date, we are somewhat behind schedule but the first step is to have draft summary template spreadsheets ready for presentation to FRBC and MOF by August 9th and licensees by August 13th. To do this we require each of you to compile some preliminary information for your region at which point we will meet/conference call to compile the templates. Please refer to the website http://www.for.gov.bc.ca/cpp/rmpguidelines/ for additional information regarding the RMP process. Specifically, Appendix 3, which discusses the SSFM initiative and includes the template spreadsheet that MELP is required to use in this process.

The next step will be to prioritize projects/issues/information gaps between Regions to be presented to licensees and FRBC on Sept. 9th. Please keep in mind that these deadlines are placed upon us by FRBC, we do not expect to have a comprehensive Resource Management Plan (RMP) developed by September, we will build upon these templates and hopefully develop a more comprehensive RMP by March 2000. What is to be contained in this more comprehensive RMP will be up to individual MELP Regions and may vary drastically between Regions. My role is strictly to represent MELP on the SSFM team and compile this information for FRBC to be presented on Sept. 9th and finalized by Sept. 30th.

Process:
compile a list of prioritized projects for your region for Fish, Wildlife and Water programs that fit within the new funding and eligibility model given in the aforementioned documents and the TSR Summary document (attached). As noted in these documents FRBC will allow projects that do not fit this new eligibility model to get funding provided that they are finalizations of presently ongoing projects. This should be indicated on the SSFM spreadsheet. It is critical to list related planning processes at the various levels. Those processes being:

Provincial Directives eg.
- Grizzly Bear Conservation Strategy
- PAS
- TSR (Timber Supply Review)
- Treaty Negotiations

- FPC

Strategic Plans eg.
- LRMPs
  - Special Management Zones/ other RMPs
  - Georgia & Fraser Basin Initiatives

Local Plans eg.
- Landscape Unit Plans
  - Watershed Plans
  - CWAPs
  - IWMS/WHAs
  - LRUPs
  - Ungulate Winter Ranges
  - access management plans
  - Community Watershed Plans

Operational Level Plans
- FDPs
  - site plans
  - water allocation plans
  - SPs and BSPs

Once the regional priorities have been identified for each section, combine these together into a summary prioritized list for your region. We will then have some sort of discussion on creating a summary list for submission to FRBC.

NOTE: It will also be helpful to list linkages of the projects/priorities between: programs (i.e. Fish, Wildlife & Water); FRBC Programs (i.e. SSFM, EEV & SH); and Ministries/ministry sections (i.e. MOF, MOE, MOMines, Parks, MOFish).

Please find attached below the Vancouver Forest Region TSR Summary which indicates general information gaps and issues identified by the Chief Forester in the last TSR. This list is quite general and it is advisable that you also contact your FES's and HPO's, as well as the TSR Summary for each Forest District within your region, to gain more specific info. regarding issues raised by the Chief Forester in his AAC rationale. It is also possible that your region already has a priority list that could be helpful as reference info. when making the new list.

<<File: Vancouver Region.doc>>

Finally, I know that some of you have only heard about this new process recently, please do not hesitate to call me at 582-5336 if you have any questions or to discuss your concerns about this process.

Thank you for your time,

Carla Lenihan
Wildlife/Habitat Inventory Biologist
Lower Mainland Region
Ministry of Environment, Lands & Parks

APPENDIX B

FRBC - Pacific Region - Strengthening Sustainable Forest Management

(inventory of project requests and list of projects recommended for funding)

FRBC - Pacific Region - Strengthening Sustainable Forest

Printed on: Tuesday, September 28, 1999

Management Unit: Arrowsmith TSA

Management Unit ID:	Strategic Driver:	Inventory Need:	Project Status:	Goals: (ha/ maps):	Estimated Cost:	Impact/ Benefit:	Links to other Strategic Objectives:	Partners:	Final Ranking:	Recommended for Funding:	Accepted for Funding:	Submission ID:
Arrowsmith TSA	LRMP,LUP,FDP	AOA -Entire TSA	new	153,450	$80,000	high			very high	No	No	29
			Subtotal by Inventory Need:		**$80,000**							
Arrowsmith TSA	TSR, LUP, FDP	FHAOS-Entire District	new	153,450	$6,000					No	No	30
Arrowsmith TSA	FDP	FHSPI-East Coast	new	1,200	$6,000					No	No	31
			Subtotal by Inventory Need:		**$12,000**							
Arrowsmith TSA	Timber Supply Review	G&Y	new		$115,000					No	No	292
			Subtotal by Inventory Need:		**$115,000**							
Arrowsmith TSA	TSR, FDP	RECFT-Entire TSA	new	153,450	$30,690	medium			medium	No	No	22
Arrowsmith TSA	TSR, LUP, FDP	RECVL-Old Duncan FD	new	29,890	$16,500	medium			medium	No	No	21
Arrowsmith TSA	TSR, LUP, FDP	RECVL-Mooyah	new	14,737	$15,000	medium			medium	No	No	1981
Arrowsmith TSA	TSR, LUP, FDP	RECVL-Toquart River	new	14,737	$10,000	high			high	No	No	23
Arrowsmith TSA	TSR, LUP, FDP	RECVL-East coast of district affected by New Island Hwy construction.	new	9,080	$10,000	high			high	No	No	20
			Subtotal by Inventory Need:		**$82,190**							
Arrowsmith TSA	LUP, VILUP	TEM (PEM)-Toquart River	new	14,737	$58,948	high			high	Yes	No	32
Arrowsmith TSA	LUP, VILUP	TEM (PEM)-East Coast	new	34,728	$138,912	high			high	Yes	No	33
			Subtotal by Inventory Need:		**$197,860**							
Arrowsmith TSA	TSR, VILUP, LUP, FDP	TSM-Barkley Sound and Upper Qualicum LIAs	new	23,929	$95,716					No	No	18
Arrowsmith TSA	TSR, LUP, FDP	TSM-Barkley Sound(outside LIA) and old Duncan FD	new	29,890	$119,560					No	No	19
			Subtotal by Inventory Need:		**$215,276**							
Arrowsmith TSA	LRMP,LUP,FDP	TUS-Te'mexw Treaty Assocn.	new	57,387	$300,000	medium			medium	No	No	27
Arrowsmith TSA	LRMP,LUP,FDP	TUS-Qualicum FN	new	109,954	$300,000	medium			medium	No	No	28
Arrowsmith TSA	LRMP,LUP, FDP	TUS-Uchuclesaht FN	new	26,512	$300,000	high			high	No	No	24
Arrowsmith TSA	LRMP,LUP,FDP	TUS-Hesquiaht FN	new	19,206	$345,499	high			high	No	No	26

Management Unit: ID:	Strategic Driver:	Inventory Need:	Project Status:	Goals: (ha/ maps):	Estimated Cost:	Impact/ Benefit:	Links to other Strategic Objectives:	Partners:	Final Ranking:	Recommended for Funding:	Accepted for Funding:	Submission ID:
Arrowsmith TSA	LRMP,LUP,FDP	TUS-Mowachaht/Muchalaht FN	new	16,552	$300,000	high			high	No	No	25
			Subtotal by Inventory Need:		**$1,545,499**							
Arrowsmith TSA	TSR, LUP, FDP	VRI1-Toquart River	new	34,728	$17,364					No	No	35
Arrowsmith TSA	LUP, FDP	VRI1-East Coast	new	14,737	$50,000					No	No	34
			Subtotal by Inventory Need:		**$67,364**							
			Total for Arrowsmith TSA:		**$2,315,189**							

Management Unit: Clayoquot Sound Land Use Decision

Management Unit: ID:	Strategic Driver:	Inventory Need:	Project Status:	Goals: (ha/ maps):	Estimated Cost:	Impact/ Benefit:	Links to other Strategic Objectives:	Partners:	Final Ranking:	Recommended for Funding:	Accepted for Funding:	Submission ID:
Clayoquot Sound Land Use Decision	Clayoquot Sound - Scientific Panel Report	AOA	new		$350,000					No	No	209
			Subtotal by Inventory Need:		**$350,000**							
Clayoquot Sound Land Use Decision	Clayoquot Sound - Scientific Panel Report	Hydroriparian	new		$130,000					No	No	208
			Subtotal by Inventory Need:		**$130,000**							
Clayoquot Sound Land Use Decision	Clayoquot Sound - Scientific Panel Report	REC	new		$70,000					No	No	210
			Subtotal by Inventory Need:		**$70,000**							
Clayoquot Sound Land Use Decision	Clayoquot Sound - Scientific Panel Report	TEM	new		$750,000					No	No	206
			Subtotal by Inventory Need:		**$750,000**							
Clayoquot Sound Land Use Decision	Clayoquot Sound - Scientific Panel Report	TSM	new		$300,000					No	No	207
			Subtotal by Inventory Need:		**$300,000**							
Clayoquot Sound Land Use Decision	MP 8 commitment; VILUP	WQT	existing	1,200	$15,000	high			high	Yes	No	2021
			Subtotal by Inventory Need:		**$15,000**							
Clayoquot Sound Land Use Decision	MP 8 commitment; VILUP	WWHI (MAMU)	existing	100,000	$75,000	high			high	Yes	No	2017
Clayoquot Sound Land Use Decision	MP 8 commitment; VILUP	WWHI (Queen Charlotte Goshawk)	existing	100,000	$60,000	high			high	Yes	No	2018
Clayoquot Sound Land Use Decision	MP 8 commitment; VILUP	WWHI (Deer winter range)	existing	190,000	$10,000	high			high	Yes	No	2019

FRBC - Pacific Region - Strengthening Sustainable Forest

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Management Unit: ID:	Strategic Driver:	Inventory Need:	Project Status:	Goals: (ha/ maps):	Estimated Cost:	Impact/ Benefit:	Links to other Strategic Objectives:	Partners:	Final Ranking:	Recommended for Funding:	Accepted for Funding:	Submission ID:
Clayoquot Sound Land Use Decision	MP 8 commitment; VILUP	WWHI (rare and endangered plant and animal)	existing	190,000	$10,000	high			high	No	No	2020
Clayoquot Sound Land Use Decision	TSR	WWH (MAMU)	existing		$40,000			MELP, WFP, SFU		No	No	2026
			Subtotal by Inventory Need:		**$195,000**							
			Total for Clayoquot Sound Land Use Decision:		**$1,810,000**							
Management Unit: Fraser TSA												
Fraser TSA	TSR, FPC Strategic Plans	AIS	new	125,000	$200,000	high			medium	No	No	286
Fraser TSA	TSR 1998 Landscape Unit pLanning	AIS	new		$30,000	high			medium	No	No	274
			Subtotal by Inventory Need:		**$230,000**							
Fraser TSA	TSR, FPC Operational Plans	FHAOS	new	290,000	$7,000					No	No	11
			Subtotal by Inventory Need:		**$7,000**							
Fraser TSA	TSR, FPC Strategic Plans	G&Y	new		$10,000					No	No	12
			Subtotal by Inventory Need:		**$10,000**							
Fraser TSA	FPC Strat planning FPC Op planning	KARST	new	128,000	$80,000	high			high	No	No	14
			Subtotal by Inventory Need:		**$80,000**							
Fraser TSA	FPC Stategic planning, TSR, FPC Operational Planning	RECFT/RECOS	new	960,000	$86,100					No	No	13
			Subtotal by Inventory Need:		**$86,100**							
Fraser TSA	TSR, LU Plan, RMZ, FCP Operational Plans	TEM	new	100,000	$350,000					No	No	10
			Subtotal by Inventory Need:		**$350,000**							
Fraser TSA	TSR, LU Plan, FPC Strategic Plans	TSM	new	100,000	$200,000					No	No	9
			Subtotal by Inventory Need:		**$200,000**							
Fraser TSA	Timber Supply Review, Fraser Innovative Forest Practices Agreement	VRI2, VRIN	existing	280,000	$100,000	high	TSR	Interfor/MoF	very high	Yes	No	285
Fraser TSA	TSR, LU Plan	VRI2, VRIN	new	280,000	$165,300					No	No	7
Fraser TSA	TSR, LU Plan	VRI2, VRIN	new	280,000	$67,500					No	No	8
			Subtotal by Inventory Need:		**$332,800**							

FRBC - Pacific Region - Strengthening Sustainable Forest

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Management Unit ID:	Strategic Driver:	Inventory Need:	Project Status:	Goals: (ha/ maps):	Estimated Cost:	Impact/ Benefit:	Links to other Strategic Objectives:	Partners:	Final Ranking:	Recommended for Funding:	Accepted for Funding:	Submission ID:
				Total for Fraser TSA:	**$1,295,900**							
Management Unit: Fraser TSA / FL A19208												
Fraser TSA / FL A19208	Community Watershed Plan	WQT	existing	11,100	$28,000					Yes	No	303
				Subtotal by Inventory Need:	**$28,000**							
Fraser TSA / FL A19208	TSR, Spotted Owl Management Plans, Spotted Owl Recovery Plan	WWH	new	13,500	$25,000					No	No	302
				Subtotal by Inventory Need:	**$25,000**							
				Total for Fraser TSA / FL A19208:	**$53,000**							
Management Unit: Kingcome TSA												
Kingcome TSA	Forest Practices Code	FHAOS	new	500,000	$8,000					No	No	1
Kingcome TSA	TSR2	FHAOS	new	500,000	$8,000					No	No	291
Kingcome TSA	Timber Supply Review 2	FHAOS	new	500,000	$0					No	No	2
				Subtotal by Inventory Need:	**$16,000**							
Kingcome TSA	Timber Supply Review	G&Y	new	500,000	$400,000	high	TSR	Interfor/MoF	medium	No	No	288
				Subtotal by Inventory Need:	**$400,000**							
Kingcome TSA	TSR2 and VILUP	KARST	new		$80,000	high			high	No	No	41
				Subtotal by Inventory Need:	**$80,000**							
Kingcome TSA	TSR2	RECOS, RECFT	new	1,126,000	$94,900	high			high	No	No	40
				Subtotal by Inventory Need:	**$94,900**							
Kingcome TSA	Timber Supply Review	TEM	new	250,000	$200,000	high	TSR	Interfor/MoF	high	Yes	No	287
Kingcome TSA	VILUP and TSR2 (or 3)	TEM	new	17,000						No	No	289
				Subtotal by Inventory Need:	**$200,000**							
Kingcome TSA	TSR2 (or 3)	TSM	new	500,000	$600,000					No	No	290
Kingcome TSA	1) Timber Supply Review 2	TSM (new inventory req'd)	new	500,000	$600,000					No	No	42
				Subtotal by Inventory Need:	**$1,200,000**							
Kingcome TSA	2) FPCode Strategic Plan (LU Plan)	VRI1	existing	370,000	$300,000	very high		Interfor	very high	Yes	No	43

FRBC - Pacific Region - Strengthening Sustainable Forest

Printed on: Tuesday, September 28, 1999

Management Unit: ID:	Strategic Driver:	Inventory Need:	Project Status:	Goals: (ha/ maps):	Estimated Cost:	Impact/ Benefit:	Links to other Strategic Objectives:	Partners:	Final Ranking:	Recommended for Funding:	Accepted for Funding:	Submission ID:
			Subtotal by Inventory Need:		**$300,000**							
			Total for Kingcome TSA:		**$2,290,900**							
Management Unit: MELP Region 1												
MELP Region 1	TSR, LRMP	FFHI (Wakkash Creek)	new		$125,000	high			high	Yes	No	2067
MELP Region 1	TSR	FFHI (Nitinat, Rift, Worthless, Jasper & Parker Rivers)	new		$100,000	high			high	Yes	No	2068
MELP Region 1	TSR, LRMP	FFHI (Sim, McMyn & Hill Creeks)	new		$125,000	high			high	Yes	No	2069
MELP Region 1	TSR	FFHI (Apple Creek)	new		$125,000	high			high	Yes	No	2066
			Subtotal by Inventory Need:		**$475,000**							
MELP Region 1	TSR	WQT	existing		$155,000	High			high	Yes	No	1990
			Subtotal by Inventory Need:		**$155,000**							
MELP Region 1	TSR, CCLRMP, VILUP	WWHI for UWR	existing		$75,000	High			high	No	No	1986
MELP Region 1	TSR, VILUP, LRMP	WWHI - Critical Habitats	existing		$48,000	High			high	No	No	1987
MELP Region 1	TSR, CCLRMP	WWHI - ID Critical Habitats	existing		$75,000	High			high	No	No	1988
MELP Region 1	TSR, CCLRMP, VILUP	WWHI - ID Critical Habitats	existing		$75,000	High			high	No	No	1989
MELP Region 1	TSR, VILUP, LRMP	WWHI - ID Critical Habitats	new		$75,000	High			high	No	No	1991
			Subtotal by Inventory Need:		**$348,000**							
			Total for MELP Region 1:		**$978,000**							
Management Unit: MELP Region 2												
MELP Region 2	TSR/LRMP	FFHI	new		$75,000	High			high	No	No	2007
MELP Region 2	TSR	FFHI	new		$100,000	High			high	No	No	2008
MELP Region 2	TSR	FFHI for SCFD	existing		$75,000	High			high	No	No	1996
MELP Region 2	TSR	FFHI for SCFD	existing		$75,000	High			high	No	No	1995
			Subtotal by Inventory Need:		**$325,000**							
MELP Region 2	TSR, LRMP	WQT - Stawamus/Mashiter/Sigurd	existing		$10,000	High			high	Yes	No	2000

Management Unit ID:	Strategic Driver:	Inventory Need:	Project Status:	Goals: (ha/ maps):	Estimated Cost:	Impact/ Benefit:	Links to other Strategic Objectives:	Partners:	Final Ranking:	Recommended for Funding:	Accepted for Funding:	Submission ID:
MELP Region 2	TSR, LRMP	WQT - Theodosia River	existing		$15,000	High			high	Yes	No	2002
MELP Region 2	TSR	WQT - Nomsh Creek	existing		$10,000	High			high	Yes	No	1999
MELP Region 2	TSR	WQT - Haslam Lake/ Lang Creek	existing		$30,000	High			high	Yes	No	1998
MELP Region 2	TSR	WQT - Chapman and Gray Creeks	existing		$10,000	High			high	Yes	No	1997
MELP Region 2	TSR, LRMP	WQT - Dakota and McNair Creeks	existing		$15,000	High			high	Yes	No	2001
				Subtotal by Inventory Need:	**$90,000**							
MELP Region 2	TSR / Spotted Owl SRMZ	WWHI	existing		$80,000	High			high	Yes	No	2004
MELP Region 2	TSR	WWH (Spotted Owl)	new		$40,000	high		WFP, MOE	high	No	No	2048
MELP Region 2	TSR / Spotted Owl SRMZ	WWHI	existing		$450,000	High			high	Yes	No	2005
MELP Region 2	TSR	WWHI to ID Critical Habitats	new		$75,000	High			high	No	No	2003
MELP Region 2	TSR	WWHI - ID Critical Habitats	existing		$75,000	High			high	No	No	1994
MELP Region 2	TSR	WWHI - ID Critical Habitats	existing		$300,000	High			high	No	No	1993
MELP Region 2	TSR	WWHI - for UWR	existing		$50,000	High			high	No	No	1992
MELP Region 2	TSR / Spotted Owl SRMZ	WWHI	existing		$735,000	High			high	Yes	No	2006
				Subtotal by Inventory Need:	**$1,805,000**							
				Total for MELP Region 2:	**$2,220,000**							
Management Unit: MELP Region 5												
MELP Region 5	TSR, LRMP	FFHI (digitize existing data)	new		$15,000	medium			medium	No	No	2058
MELP Region 5	TSR, LRMP	FFHI (anadromous species)	new		$100,000	high			medium	No	No	2059
MELP Region 5	TSR, LRMP	FFHI	existing		$360,000	high			high	Yes	No	2051
MELP Region 5	TSR, LRMP	FFHI (lakes)	new		$210,000	high			high	Yes	No	2055
MELP Region 5	TSR, LRMP	FFHI (bull trout, dolly varden, cutthroat)	new		$100,000	high			high	Yes	No	2056
MELP Region 5	TSR, LRMP	FFHI (lake classification)	new		$10,000	high			high	Yes	No	2057
				Subtotal by Inventory Need:	**$795,000**							
MELP Region 5	TSR, LRMP	TEM (to support WHA mapping)	new		$50,000	medium			medium	No	No	2061

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			Subtotal by Inventory Need:		**$50,000**							
MELP Region 5	TSR, LRMP	WWHI (Marbled Murrelet)	existing		$100,000	high			high	Yes	No	2053
MELP Region 5	TSR, LRMP	WWHI (Grizzly Bear)	existing		$100,000	high			high	Yes	No	2052
MELP Region 5	TSR, LRMP	WWHI (goshawk, tailed frogs, etc.)	new		$25,000	high			high	Yes	No	2060
MELP Region 5	TSR, LRMP	WWHI (ungulate winter range)	existing		$80,000	high			high	Yes	No	2054
			Subtotal by Inventory Need:		**$305,000**							
			Total for MELP Region 5:		**$1,150,000**							
Management Unit: MELP Region 6												
MELP Region 6	TSR	FFHI	new		$75,000	High			high	No	No	2010
			Subtotal by Inventory Need:		**$75,000**							
MELP Region 6	TSR, LRMP	WQT	existing		$60,000	High			high	No	No	2009
			Subtotal by Inventory Need:		**$60,000**							
			Total for MELP Region 6:		**$135,000**							
Management Unit: Mid Coast TSA												
Mid Coast TSA	Timber Supply Review / Landscape Unit Planning		new							No	No	308
			Subtotal by Inventory Need:									
Mid Coast TSA	FPC Operational Planning	TEM	new	27,133	$94,965					No	No	16
			Subtotal by Inventory Need:		**$94,965**							
Mid Coast TSA	FPC Operational Planning	TSM	new	55,013	$192,545					No	No	17
Mid Coast TSA	FPC Operational Planning	TSM	new	40,452	$141,582					No	No	15
			Subtotal by Inventory Need:		**$334,127**							
Mid Coast TSA	LRMP, TSR, LUP, Operational Planning	TUS - Nuxalk	new			high			high	No	No	2062
			Subtotal by Inventory Need:									
			Total for Mid Coast TSA:		**$429,092**							

Management Unit: QCI TSA

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QCI TSA	TSR, Strategic Planning, IMA negotiations with Haida Nation	AIS TSA: (Nang xaldangaas)	ongoing	500	$150,000	high			high	No	No	278
QCI TSA	TSR, Strategic Planning, IMA negotiations with Haida Nation	AIS (Gray Bay/Cumshewa TFL 39)	new	500	$45,000	high			high	No	No	281
QCI TSA	TSR, Strategic Planning, IMA negotiations with Haida Nation	AIS (Begbie-Yakoun;: TFL 39)	new	350	$28,000	high			high	No	No	280
QCI TSA	TSR, Strategic Planning, IMA negotiations with Haida Nation	AIS (Security Inlet; : TFL 39)	new	300	$45,000	high			high	No	No	279
QCI TSA	Tlell LRUP (TFL 39), TSR, Strategic Planning, IMA negotiations with Haida Nation	AIS (TFL 39: Tlell)	new	500	$62,500	high			high	No	No	277
QCI TSA	Tlell LRUP (TSA), TSR, Strategic Planning, IMA Negotations with the Haida	AIS (TSA Tlell)	new	1,000	$100,000	high			high	No	No	276
			Subtotal by Inventory Need:		**$430,500**							
QCI TSA	FPC operational plans, TSR, LU planning	FHAOS - Aerial Overview Survey	new	465,000	$4,000					No	No	200
QCI TSA	TSR	FHSPI	new	465,000	$150,000					No	No	201
			Subtotal by Inventory Need:		**$154,000**							
QCI TSA	FPC strategic (LU), TSR,	G&Y	new		$60,000					No	No	197
QCI TSA	FPC strategic (LU), TSR,	G&Y	new		$80,000					No	No	196
			Subtotal by Inventory Need:		**$140,000**							
QCI TSA	TSR, strategic land use plan,LU planning	LAND	new	868,082						No	No	202
			Subtotal by Inventory Need:									
QCI TSA	FPC Strategic Plan	RECVL	new	465,000	$30,000	medium			medium	No	No	2039
QCI TSA	FPC Strategic Plan	RECFT	new	465,000	$37,500	medium			medium	No	No	158
QCI TSA	FPC Strategic Plan	RECOS	new	465,000	$37,500	medium			medium	No	No	159
			Subtotal by Inventory Need:		**$105,000**							
QCI TSA	FPC strategic plan (LU), TSR, LRMP	RIVER	new	465,000	$75,000	low			low	No	No	198
			Subtotal by Inventory Need:		**$75,000**							
QCI TSA	Forest Development Plan	TEM	new	70,776	$353,880					No	No	38
QCI TSA	FPC Strategic Plan, Strategic land use plans (LRMP), FPC OP. plan	TEM of all TSA lands	new	225	$28,125					No	No	189

Management Unit: ID:	Strategic Driver:	Inventory Need:	Project Status:	Goals: (ha/ maps):	Estimated Cost:	Impact/ Benefit:	Links to other Strategic Objectives:	Partners:	Final Ranking:	Recommended for Funding:	Accepted for Funding:	Submission ID:
QCI TSA	FPC Strategic Plan, Strategic land use plan	TEM of all TSA, except Tlell watershed	new	445,000	$2,225,000					No	No	161
				Subtotal by Inventory Need:	**$2,607,005**							
QCI TSA	FPC Strategic Plan (LU planning), Land Use Plan, TSR	TRIM 2	new	28,000	$15,750					No	No	165
QCI TSA	FPC Strategic Plan (LU planning), Land Use Plan, TSR	TRIM 2	new	116,250	$20,625					No	No	164
QCI TSA	FPC Strategic Plan (LU planning), Land Use Plan, TSR	TRIM 2	new	465,000	$172,500					No	No	163
				Subtotal by Inventory Need:	**$208,875**							
QCI TSA	Strategic Land use plan (LRMP), FPC strategic plan (LU), FPC operational plan, TSR	TSM - Terrain Stability Mapping	new	400,000	$130,000					No	No	170
QCI TSA	Silviculture Prescription	TSM	new	70,776	$353,880					No	No	37
QCI TSA	Strategic Land use plan, FPC strategic plan (LU), TSR	TSM	new	160,000	$79,750					No	No	275
QCI TSA	Strategic land use plan (LRMP), FPC strategic plan (LU planning), FPC operational plans,	TSM - Terrain Stability Mapping - QCC 103f30	new	5,000	$10,000					No	No	169
QCI TSA	Strategic land use plan (LRMP), FPC strategic plan (LU planning), FPC operational plans,	TSM - Terrain Stability Mapping - Tarundl	new	5,000	$10,000					No	No	168
QCI TSA	Strategic land use plan (LRMP), FPC strategic plan (LU planning), FPC operational plans,	TSM - Terrain Stability Mapping - Slarkedus	new	5,000	$10,000					No	No	167
QCI TSA	Strategic land use plan (LRMP), FPC strategic plan (LU planning), FPC operational plans,	TSM - Terrain Stability Mapping - Honna	new	5,000	$10,000					No	No	166
				Subtotal by Inventory Need:	**$603,630**							
QCI TSA	TSR, Strategic Planning, IMA negotiations with Haida Nation	TUS - cedar inventory	new	465,000	$250,000	high			very high	No	No	192
QCI TSA	TSR, Strategic Planning, IMA with Haida Nation	TUS	new	465,000	$1,000,000	high			medium	No	No	190
QCI TSA	Relations with Haida, Strategic land use plan (LRMP), FPC strategic plan (LU), FPC operational plan	TUA - Traditional Use Assessment of sockeye watersheds	new		$71,670	high			high	No	No	191
QCI TSA	TSR, Strategic Planning, IMA negotiations with Haida Nation	TUS (previously TUA): medicine plant inventory	new	18,850	$75,000	high			high	No	No	282

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QCI TSA	TSR, Strategic Planning, IMA negotiations with Haida Nation	TUS (previously Tradional Use Assessment (TUA)) of sockeye watersheds	new	465,000	$300,000	high			high	No	No	283
			Subtotal by Inventory Need:		**$1,696,670**							
QCI TSA	FPC strategic plan (LU), strategic land use plan, TSR, relations with Haida, to support cultural heritage resources mgmt.	VRI1, VRI2, VRIN	new	868,082	$800,000					No	No	194
QCI TSA	Timber Supply Review	VRIN	new		$70,000					No	No	39
QCI TSA	FPC strategic plan (LU), strategic land use plan, TSR, relations with Haida, to support cultural heritage resources mgmt.	VRI1, VRI2, VRIN	new	868,082	$70,000					No	No	195
QCI TSA	FPC strategic plan (LU), strategic land use plan, TSR, relations with Haida, to support cultural heritage resources mgmt.	VRI1, VRI2, VRIN	new	868,082						No	No	193
			Subtotal by Inventory Need:		**$940,000**							
			Total for QCI TSA:		**$6,960,680**							
Management Unit: Soo TSA												
Soo TSA	Timber Supply Review and Strategic Land Use Plan		new	2,279						No	No	306
			Subtotal by Inventory Need:									
Soo TSA	Strategic Land Use Plan	AOA	new	800,000	$24,800					No	No	305
			Subtotal by Inventory Need:		**$24,800**							
Soo TSA	TSR and operational plans	FHAOS	new	50,000	$10,000					No	No	203
			Subtotal by Inventory Need:		**$10,000**							
Soo TSA	Timber Supply Review and Strategic Land Use Plan	G&Y	new	26,450						No	No	307
			Subtotal by Inventory Need:									
Soo TSA	Operational Plan Reviews (FPC compliance)	RECFT, RECOS	new		$32,300	high			medium	No	No	2037
Soo TSA	Operational Plan Reviews (FPC compliance)	RECVL	new		$29,900	high			high	No	No	2038
			Subtotal by Inventory Need:		**$62,200**							
			Total for Soo TSA:		**$97,000**							

Management Unit: Soo TSA / FL A19213

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Soo TSA / FL A19213	TSR, Spotted Owl Management Plans, Spotted Owl Recovery Plan	WWH	new	8,400	$25,000					No	No	304
			Subtotal by Inventory Need:		**$25,000**							
			Total for Soo TSA / FL A19213:		**$25,000**							
Management Unit: Strathcona Timber Supply Area												
Strathcona Timber Supply Area	TSR - Strathcona, TFLs 19, 25, 39, 45	AOA	new		$5,000	high			very high	No	No	270
Strathcona Timber Supply Area	LUP	AOA	new		$25,000	high			high	No	No	271
			Subtotal by Inventory Need:		**$30,000**							
Strathcona Timber Supply Area	Development Planning, TSR	FHAOS	new	250,000	$6,000					No	No	138
			Subtotal by Inventory Need:		**$6,000**							
Strathcona Timber Supply Area	TSR	G&Y	new	0	$90,000					No	No	146
			Subtotal by Inventory Need:		**$90,000**							
Strathcona Timber Supply Area	TSR, VILUP	KARST - Nootka -Nomash	new	7,682	$20,500	high			very high	No	No	1982
Strathcona Timber Supply Area	TSR, VILUP	KARST - McNally - Artlish	new	2,053	$14,500	medium			medium	No	No	1983
			Subtotal by Inventory Need:		**$35,000**							
Strathcona Timber Supply Area	TSR, VILUP	RECFT	new		$81,900	medium			medium	No	No	1985
Strathcona Timber Supply Area	TSR, VILUP	RECVL	new		$81,900	medium			medium	No	No	1984
			Subtotal by Inventory Need:		**$163,800**							
Strathcona Timber Supply Area	TSR, VILUP, LUP	TEM	new		$200,000				high	Yes	No	1980
Strathcona Timber Supply Area	TSR, VILUP, LUP	TEM	new		$500,000	high			high	No	No	1979
			Subtotal by Inventory Need:		**$700,000**							
Strathcona Timber Supply Area	Development Planning, TSR, Landscape Units	TSM	new	141,000	$30,000					No	No	144
			Subtotal by Inventory Need:		**$30,000**							

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Strathcona Timber Supply Area	TSR, LUP, Op Planning	TUS - Ehattesaht	new			high			high	No	No	2063
Strathcona Timber Supply Area	TSR, LUP, Op Planning	TUS - Mowachaht/Muchalaht	new			high			high	No	No	2064
Strathcona Timber Supply Area	TSR, LUP, Op Planning	TUS - Kyoquat/Chicklesaht	new			high			high	No	No	2065
Strathcona Timber Supply Area	VILUP, FPC OP	TUS	new		$150,000					No	No	272
			Subtotal by Inventory Need:		**$150,000**							
Strathcona Timber Supply Area	TSR, Development Planning	VRI1, VRI2, VRIN,	new	700,000	$640,000					No	No	147
Strathcona Timber Supply Area	TSR, Development Planning	VRI1, VRI2, VRIN,	new	700,000	$500,000					No	No	148
Strathcona Timber Supply Area	TSR, Development Planning	VRI1, VRI2, VRIN,	new	700,000	$100,000					No	No	149
Strathcona Timber Supply Area	TSR, Development Planning	VRI1, VRI2, VRIN,	new	0	$0					No	No	150
			Subtotal by Inventory Need:		**$1,240,000**							
			Total for Strathcona Timber Supply Area:		**$2,444,800**							
Management Unit: Sunshine Coast TSA												
Sunshine Coast TSA	TSR and Operational Plans	AOA/AIS	ongoing - 1997-98		$150,000	high			high	No	No	315
			Subtotal by Inventory Need:		**$150,000**							
Sunshine Coast TSA	TSR and Operational Plans	FHAOS	new	240,000	$11,200					No	No	152
Sunshine Coast TSA	TSR and Operational Plans	FHAOS	new	22,340	$10,500					No	No	309
			Subtotal by Inventory Need:		**$21,700**							
Sunshine Coast TSA	TSR and Operational Plans	RECFT	new	1,100,000	$72,000	high			high	No	No	313
Sunshine Coast TSA	TSR and Operational Plans	RECVL	new	1,100,000	$40,000	high			high	No	No	314
Sunshine Coast TSA	TSR and Operational Plans	RECOS	new	1,100,000	$18,000	high			high	No	No	312
			Subtotal by Inventory Need:		**$130,000**							
Sunshine Coast TSA	TSR,LRMP,LUP and Operational Plans	TEM	new	16,600	$132,800					No	No	311
Sunshine Coast TSA	TSR,LRMP,LUP and Operational Plans	TEM	new	16,600	$132,800					No	No	154

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			Subtotal by Inventory Need:		**$265,600**							
Sunshine Coast TSA	TSR and Operational Plans	TSM	new	570,000	$80,000					No	No	310
Sunshine Coast TSA	TSR and Operational Plans	TSM	new	570,000	$80,000					No	No	153
			Subtotal by Inventory Need:		**$160,000**							
Sunshine Coast TSA	TSR	WQT	existing	12,449	$15,000	high			high	Yes	No	2036
			Subtotal by Inventory Need:		**$15,000**							
Sunshine Coast TSA	TSR	WWH	new	15,000	$20,000	medium			medium	No	No	2035
			Subtotal by Inventory Need:		**$20,000**							
			Total for Sunshine Coast TSA:		**$762,300**							
Management Unit:	**TFL 10**											
TFL 10	Timber Supply Review	TEM/G&Y	new	25,000	$172,000	high			high	No	No	249
			Subtotal by Inventory Need:		**$172,000**							
			Total for TFL 10:		**$172,000**							
Management Unit:	**TFL 19**											
TFL 19	TSR, treaty neg.	FFHI	existing		$100,000	high		WFP	high	No	No	2030
			Subtotal by Inventory Need:		**$100,000**							
TFL 19	Timber Supply Review & Landscape Planning	G&Y	new	192,000	$105,600					No	No	236
			Subtotal by Inventory Need:		**$105,600**							
TFL 19	Timber Supply Review & Landscape Planning	KARST	new	192,000	$19,200					No	No	240
			Subtotal by Inventory Need:		**$19,200**							
TFL 19	VILUP, LUP, MP	RECVL	new	192,500						No	No	57
TFL 19	Timber Supply Review & Landscape Planning	RECOS	new	192,000	$9,600					No	No	239
TFL 19	Timber Supply Review & Landscape Planning	RECFT	new	192,000	$19,200					No	No	238
			Subtotal by Inventory Need:		**$28,800**							

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TFL 19	Timber Supply Review & Landscape Planning	RIVER	new	192,000	$28,800					No	No	237
			Subtotal by Inventory Need:		**$28,800**							
TFL 19	VILUP, LUP, MP	TEM	new	192,500	$1,400,000					No	No	56
			Subtotal by Inventory Need:		**$1,400,000**							
TFL 19	Timber Supply Review & Landscape Planning	VRI1	new	192,000	$576,000					No	No	233
TFL 19	Timber Supply Review & Landscape Planning	VRI2	new	192,000	$384,000					No	No	234
TFL 19	Timber Supply Review & Landscape Planning	VRIN	new	192,000	$96,000					No	No	235
			Subtotal by Inventory Need:		**$1,056,000**							
TFL 19	TSR	WQT	existing		$15,000	high		MOE Region 1	high	No	No	2043
			Subtotal by Inventory Need:		**$15,000**							
TFL 19	TSR, LUP	WWH (MAMU)	new		$95,000	high			high	No	No	2041
TFL 19	TSR, LUP	WWH (Goshawk)	existing		$70,000	high		MOE Region 1	high	No	No	2042
			Subtotal by Inventory Need:		**$165,000**							
			Total for TFL 19:		**$2,918,400**							
Management Unit: TFL 25 Block 1												
TFL 25 Block 1	Timber Supply Review & Landscape Planning	G&Y	new	31,900	$17,545					No	No	231
			Subtotal by Inventory Need:		**$17,545**							
TFL 25 Block 1	Timber Supply Review & Landscape Planning	RIVER (not a Ric approved inventory, closer to stream classification)	new	31,900	$4,785	low			low	No	No	232
			Subtotal by Inventory Need:		**$4,785**							
TFL 25 Block 1	VILUP	WWH (MAMU)	existing		$20,000	high		MOE, SFU, TbrWest, MB	high	No	No	2044
			Subtotal by Inventory Need:		**$20,000**							
			Total for TFL 25 Block 1:		**$42,330**							

Management Unit: TFL 25 Block 2

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TFL 25 Block 2	TSR, treaty neg.	FFHI (Stafford LU)	new		$125,000	high		potential WFP	high	No	No	2031
			Subtotal by Inventory Need:		**$125,000**							
TFL 25 Block 2	Timber Supply Review & Landscape Planning	G&Y	new	67,000	$36,850					No	No	64
			Subtotal by Inventory Need:		**$36,850**							
TFL 25 Block 2	Timber Supply Review & Landscape Planning	RIVER (not a RIC approved inventory, closer to stream classification)	new	67,000	$10,050	low			low	No	No	66
			Subtotal by Inventory Need:		**$10,050**							
TFL 25 Block 2	Timber Supply Review & Landscape Planning	VRI2	new	67,000	$134,000					No	No	62
TFL 25 Block 2	Timber Supply Review & Landscape Planning	VRI1	new	67,000	$201,000					No	No	61
TFL 25 Block 2	Timber Supply Review & Landscape Planning	VRIN	new	67,000	$33,500					No	No	63
			Subtotal by Inventory Need:		**$368,500**							
			Total for TFL 25 Block 2:		**$540,400**							
Management Unit:	**TFL 25 Block 3**											
TFL 25 Block 3	Timber Supply Review & Landscape Planning	G&Y	new	16,400	$9,020					No	No	223
			Subtotal by Inventory Need:		**$9,020**							
TFL 25 Block 3	Timber Supply Review & Landscape Planning	RIVER (not a RIC approved inventory, closer to stream classification)	new	16,400	$2,460	low			low	No	No	224
			Subtotal by Inventory Need:		**$2,460**							
TFL 25 Block 3	Timber Supply Review & Landscape Planning	TUS	new	16,400	$24,600					No	No	225
			Subtotal by Inventory Need:		**$24,600**							
TFL 25 Block 3	Timber Supply Review & Landscape Planning	VRI1	new	16,400	$49,200					No	No	220
TFL 25 Block 3	Timber Supply Review & Landscape Planning	VRIN	new	16,400	$8,200					No	No	222
TFL 25 Block 3	Timber Supply Review & Landscape Planning	VRI2	new	16,400	$32,800					No	No	221

Management Unit: ID:	Strategic Driver:	Inventory Need:	Project Status:	Goals: (ha/ maps):	Estimated Cost:	Impact/ Benefit:	Links to other Strategic Objectives:	Partners:	Final Ranking:	Recommended for Funding:	Accepted for Funding:	Submission ID:
			Subtotal by Inventory Need:		**$90,200**							
			Total for TFL 25 Block 3:		**$126,280**							
Management Unit: TFL 25 Block 5												
TFL 25 Block 5	Timber Supply Review & Landscape Planning	AOA / AIS	new	125,250	$62,625	high			very high	No	No	219
			Subtotal by Inventory Need:		**$62,625**							
TFL 25 Block 5	TSR, LUP	FFHI	existing		$125,000	high		MOE Region 5	high	No	No	2045
			Subtotal by Inventory Need:		**$125,000**							
TFL 25 Block 5	Timber Supply Review & Landscape Planning	G&Y	new	125,250	$75,150					No	No	217
			Subtotal by Inventory Need:		**$75,150**							
TFL 25 Block 5	Timber Supply Review & Landscape Planning	RIVER (not a RIC approved inventory, closer to stream classification)	new	125,250	$37,575	low			low	No	No	218
			Subtotal by Inventory Need:		**$37,575**							
TFL 25 Block 5	Timber Supply Review & Landscape Planning	VRI2	new	125,250	$250,500					No	No	215
TFL 25 Block 5	Timber Supply Review & Landscape Planning	VRI1	new	125,250	$375,750					No	No	214
TFL 25 Block 5	Timber Supply Review & Landscape Planning	VRIN	new	125,250	$62,625					No	No	216
			Subtotal by Inventory Need:		**$688,875**							
TFL 25 Block 5	TSR, CCLRMP	WWH (bears)	existing		$50,000	high		MOE Region 5	high	No	No	2046
TFL 25 Block 5	TSR	WWH (kermode and grizzly bear)	existing		$70,000					Yes	No	2025
			Subtotal by Inventory Need:		**$120,000**							
			Total for TFL 25 Block 5:		**$1,109,225**							
Management Unit: TFL 25 Block 6 (TFL 24 is being amalgamated with												
TFL 25 Block 6 (TFL 24 is being amalgamated with TFL 25 as Block 6)	Timber Supply Review & Landscape Planning	AIS	new	53,700	$26,850	high			very high	No	No	229
			Subtotal by Inventory Need:		**$26,850**							

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Management Unit: ID:	Strategic Driver:	Inventory Need:	Project Status:	Goals: (ha/ maps):	Estimated Cost:	Impact/ Benefit:	Links to other Strategic Objectives:	Partners:	Final Ranking:	Recommended for Funding:	Accepted for Funding:	Submission ID:
TFL 25 Block 6 (TFL 24 is being amalgamated with TFL 25 as Block 6)	LRMP	AOA	new	53,700	$38,000	high			very high	Yes	No	230
			Subtotal by Inventory Need:		**$38,000**							
TFL 25 Block 6 (TFL 24 is being amalgamated with TFL 25 as Block 6)	Timber Supply Review & Landscape Planning	G&Y	new	53,700	$10,740					No	No	227
TFL 25 Block 6 (TFL 24 is being amalgamated with TFL 25 as Block 6)	Timber Supply Review & Landscape Planning	G&Y	new	53,700	$29,535					No	No	226
			Subtotal by Inventory Need:		**$40,275**							
TFL 25 Block 6 (TFL 24 is being amalgamated with TFL 25 as Block 6)	Timber Supply Review & Landscape Planning	RIVER (not a Ric approved inventory, closer to stream classification)	new	53,700	$8,055					No	No	228
			Subtotal by Inventory Need:		**$8,055**							
TFL 25 Block 6 (TFL 24 is being amalgamated with TFL 25 as Block 6)	Management Planning	VRIN	new		$70,000					No	No	47
TFL 25 Block 6 (TFL 24 is being amalgamated with TFL 25 as Block 6)	Management Planning	VRI2	new		$100,000					No	No	46
			Subtotal by Inventory Need:		**$170,000**							
	Total for TFL 25 Block 6 (TFL 24 is being amalgamated with TFL 25 as Block 6):				**$283,180**							
Management Unit: TFL 37												
TFL 37	TSR, MP 8 AAC Rationale	AOA	new	150	$30,000	high			high	Yes	No	2034
			Subtotal by Inventory Need:		**$30,000**							
TFL 37	MP 8 commitment and opportunity	G&Y	new	190,000	$40,000	high			very high	Yes	No	4
			Subtotal by Inventory Need:		**$40,000**							
TFL 37	TSR2 and VILUP	KARST	new		$80,000	high			high	No	No	299
			Subtotal by Inventory Need:		**$80,000**							
TFL 37	TSR	RECFT, RECOS	new	190,000	$50,000	high			high	Yes	No	6
			Subtotal by Inventory Need:		**$50,000**							
TFL 37	MP 8 commitment; VILUP	TEM	new	20,900	$69,650					No	No	3

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Management Unit ID:	Strategic Driver:	Inventory Need:	Project Status:	Goals: (ha/ maps):	Estimated Cost:	Impact/ Benefit:	Links to other Strategic Objectives:	Partners:	Final Ranking:	Recommended for Funding:	Accepted for Funding:	Submission ID:
			Subtotal by Inventory Need:		**$69,650**							
TFL 37	Code – Strategic; MP 8 opportunity; VILUP; cultural heritage resources	VRI2	new	153,600	$60,000	high			very high	Yes	No	5
TFL 37	VILUP, TSR, MP 8 Rationale/Commitment	VRI1	existing		$27,500	high			high	Yes	No	2033
			Subtotal by Inventory Need:		**$87,500**							
TFL 37	TSR	WWH	new		$25,000	medium				No	No	2050
			Subtotal by Inventory Need:		**$25,000**							
			Total for TFL 37:		**$382,150**							
Management Unit: TFL 38												
TFL 38	Timber Supply Review	TEM/G&Y	existing	60,000	$201,000	high			very high	Yes	No	250
			Subtotal by Inventory Need:		**$201,000**							
			Total for TFL 38:		**$201,000**							
Management Unit: TFL 39												
TFL 39	TSR, QCI LRMP	AIS	new		$120,000	very high			very high	Yes	No	1978
			Subtotal by Inventory Need:		**$120,000**							
TFL 39	TSR2 and VILUP	KARST	new		$50,000	high			high	No	No	298
			Subtotal by Inventory Need:		**$50,000**							
TFL 39	TSR, VILUP	TEM	ongoing		$100,000	very high			very high	Yes	No	1976
TFL 39	TSR, VILUP	TEM	ongoing		$200,000	very high			very high	Yes	No	1977
			Subtotal by Inventory Need:		**$300,000**							
			Total for TFL 39:		**$470,000**							
Management Unit: TFL 44												
TFL 44	TSR, VILUP	AIS	new		$90,000	very high			very high	Yes	No	1972
TFL 44	TSR, VILUP	AIS	new		$100,000	very high			very high	Yes	No	1974
			Subtotal by Inventory Need:		**$190,000**							
TFL 44	TSR, treaty neg.	FFHI (Nitinat LU)	new		$100,000	high		potential MB, Timberwest	high	No	No	2032

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Management Unit ID:	Strategic Driver:	Inventory Need:	Project Status:	Goals: (ha/ maps):	Estimated Cost:	Impact/ Benefit:	Links to other Strategic Objectives:	Partners:	Final Ranking:	Recommended for Funding:	Accepted for Funding:	Submission ID
			Subtotal by Inventory Need:		**$100,000**							
TFL 44	TSR, VILUP, MB Forestry Project	G&Y	new		$238,653	high			high	Yes	No	1975
			Subtotal by Inventory Need:		**$238,653**							
TFL 44	TSR, VILUP	TEM	ongoing		$300,000	very high			very high	Yes	No	1971
			Subtotal by Inventory Need:		**$300,000**							
TFL 44	TSR, VILUP	TSM	new		$60,000	very high			very high	Yes	No	1973
			Subtotal by Inventory Need:		**$60,000**							
			Total for TFL 44:		**$888,653**							
Management Unit: TFL 45												
TFL 45	TSR, CCLCRMP	FFHI (Knight East LU)	new		$125,000	high		potential Interfor	high	No	No	2027
TFL 45	TSR, CCLCRMP	FFHI (Sim LU)	new		$125,000	high		potential Interfor	high	No	No	2028
			Subtotal by Inventory Need:		**$250,000**							
			Total for TFL 45:		**$250,000**							
Management Unit: TFL 46												
TFL 46	Timber Supply Analysis to accommodate Regional or Subregional resource management strategies	G&Y	existing	300	$15,000	high			very high	Yes	No	253
			Subtotal by Inventory Need:		**$15,000**							
TFL 46	Timber Supply Analysis to accommodate Regional or Subregional resource management strategies	RECFT	ongoing	99,000	$10,000	high			high	Yes	No	251
TFL 46	Timber Supply Analysis to accommodate Regional or Subregional resource management strategies	RECVL	new	99,000	$10,000	high			high	Yes	No	252
			Subtotal by Inventory Need:		**$20,000**							
TFL 46	Timber Supply Analysis to accommodate Regional or Subregional resource management strategies	TSM	ongoing	8,000	$20,000	high			high	Yes	No	255
			Subtotal by Inventory Need:		**$20,000**							
TFL 46 2015	TSR to accommodate regional or Subregional management strategies		WQT (water quality & quantity)existing		5	$19,000		low	MELP	low	Yes	No

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Management Unit: ID	Strategic Driver:	Inventory Need:	Project Status:	Goals: (ha/ maps):	Estimated Cost:	Impact/ Benefit:	Links to other Strategic Objectives:	Partners:	Final Ranking:	Recommended for Funding:	Accepted for Funding:	Submission ID:
TFL 46 2014	TSR to accommodate regional or Subregional management strategies	WQT (water quality & quantity)	existing	5	$37,000	high		MELP	high	No	No	
			Subtotal by Inventory Need:		$56,000							
TFL 46 2013	TSR to accommodate regional or Subregional management strategies	WWHI (Clayoquot murrelets)	existing	30	$10,000	medium		MELP	high	No	No	
TFL 46 2012	TSR to accommodate regional or Subregional management strategies	WWHI (SFU murrelets)	existing	10	$26,500	medium		MELP	high	No	No	
TFL 46 2011	TSR to accommodate regional or Subregional management strategies	WWHI (goshawks)	existing	100	$42,000	high		MELP	high	No	No	
			Subtotal by Inventory Need:		$78,500							
			Total for TFL 46:		$189,500							

Management Unit: TFL 47

Management Unit: ID	Strategic Driver:	Inventory Need:	Project Status:	Goals: (ha/ maps):	Estimated Cost:	Impact/ Benefit:	Links to other Strategic Objectives:	Partners:	Final Ranking:	Recommended for Funding:	Accepted for Funding:	Submission ID:
TFL 47	TSR	AOA	new	140,000	$40,000	high			high	Yes	No	2040
			Subtotal by Inventory Need:		$40,000							
TFL 47	TSR	FFHI	existing	580	$85,000	high		Timberwest	high	Yes	No	2029
			Subtotal by Inventory Need:		$85,000							
TFL 47	Timber Supply Analysis to accommodate Regional or Subregional resource management strategies	G&Y	new	100	$15,000	high			high	Yes	No	263
			Subtotal by Inventory Need:		$15,000							
TFL 47	TSR2 and VILUP	KARST	new		$20,000	high			high	No	No	301
			Subtotal by Inventory Need:		$20,000							
TFL 47	Timber Supply Analysis to accommodate Regional or Subregional resource management strategies	RECFT	new	140,000	$10,000	high			high	Yes	No	261
TFL 47	Timber Supply Analysis to accommodate Regional or Subregional resource management strategies	RECVL	new	140,000	$10,000	high			high	Yes	No	262
TFL 47	Timber Supply Analysis to accommodate Regional or Subregional resource management strategies	RECFT/RECVL/WWH	new	1,500	$120,000					No	No	269
			Subtotal by Inventory Need:		$140,000							

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Management Unit: ID:	Strategic Driver:	Inventory Need:	Project Status:	Goals: (ha/ maps):	Estimated Cost:	Impact/ Benefit:	Links to other Strategic Objectives:	Partners:	Final Ranking:	Recommended for Funding:	Accepted for Funding:	Submission ID:
TFL 47	Timber Supply Analysis to accommodate Regional or Subregional resource management strategies	TEM, G&Y	new	30,000	$40,000	high			high	Yes	No	264
			Subtotal by Inventory Need:		**$40,000**							
TFL 47	Timber Supply Analysis to accommodate Regional or Subregional resource management strategies	TSM	new	15,000	$50,000	high			very high	Yes	No	265
			Subtotal by Inventory Need:		**$50,000**							
TFL 47 2016	TSR to accommodate regional or Subregional management strategies		WWHI	existing	8,000	$30,000		high	MELP	high	No	No
TFL 47	TSR	WWH	new		$30,000	high				No	No	2049
			Subtotal by Inventory Need:		**$60,000**							
			Total for TFL 47:		**$450,000**							
Management Unit: TFL 6												
TFL 6	TSR, LUP	FFHI	existing		$75,000	high		WFP, MOE	high	No	No	2047
			Subtotal by Inventory Need:		**$75,000**							
TFL 6	Timber Supply Review & Landscape Unit Planning	G&Y	new	200,000	$20,000					No	No	247
TFL 6	Timber Supply Review & Landscape Unit Planning	G&Y	new	200,000	$60,000					No	No	246
			Subtotal by Inventory Need:		**$80,000**							
TFL 6	TSR2 and VILUP	KARST	new		$50,000	high			high	No	No	300
			Subtotal by Inventory Need:		**$50,000**							
TFL 6	Timber Supply Review & Landscape Unit Planning	RIVER (not a RIC approved inventory, closer to stream classification)	new	200,000	$40,000	low			low	No	No	245
TFL 6	Timber Supply Review & Landscape Unit Planning	RIVER (not a RIC approved inventory, closer to stream classification)	new	200,000	$30,000	low			low	No	No	244
			Subtotal by Inventory Need:		**$70,000**							
TFL 6	Timber Supply Review & Landscape Unit Planning	TUS	new	200,000	$48,000					No	No	248
			Subtotal by Inventory Need:		**$48,000**							

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Management Unit: ID:	Strategic Driver:	Inventory Need:	Project Status:	Goals: (ha/ maps):	Estimated Cost:	Impact/ Benefit:	Links to other Strategic Objectives:	Partners:	Final Ranking:	Recommended for Funding:	Accepted for Funding:	Submission ID:
TFL 6	Timber Supply Review & Landscape Unit Planning	VRI2	new	200,000	$162,000	very high			very high	Yes	No	242
TFL 6	Timber Supply Review & Landscape Unit Planning	VRI1	new	200,000	$600,000	very high			very high	Yes	No	241
TFL 6	Timber Supply Review & Landscape Unit Planning	VRIN	new	200,000	$100,000					No	No	243
			Subtotal by Inventory Need:		**$862,000**							
			Total for TFL 6:		**$1,185,000**							
Management Unit: Vancouver Forest Region												
Vancouver Forest Region	TSR; Operational Plans	FHAOS	new	41,000	$15,000					No	No	205
Vancouver Forest Region	TSR, Operational Plans	FHAOS	new	615,000	$15,000					No	No	284
			Subtotal by Inventory Need:		**$30,000**							
Vancouver Forest Region	TSR, LRMP and LUP	InvUp	new	12,000	$120,000					No	No	204
			Subtotal by Inventory Need:		**$120,000**							
			Total for Vancouver Forest Region:		**$150,000**							
			Grand Total Need for all Management Units:		**$32,324,979**							

Total Cost of MoF Recommended Projects: $3,635,013

Recommended for Funding is 'Yes'

Total Cost of MoELP Recommended Projects: $3,347,000

Recommended for Funding is 'Yes'

6.0 VOLUME 3

SUSTAINABLE HARVEST
Ministry of Environment, Lands and Parks

6.1 Introduction

As part of Services Agreements with FRBC, MELP and MOF provide FRBC with joint RMPs. RMPs are comprehensive planning documents linking other resource management planning initiatives. They identify ministry objectives and priorities, recommend investment opportunities for FRBC, and identify funding requirements. The activities discussed in a RMP may include those not eligible for FRBC funding. RMPs are dynamic documents in that they build upon the previous year's RMP, are updated annually with new information from research, inventory and monitoring programs, and reflect changing resource management priorities.

The SH section of the RMP identifies key opportunities for silviculture investments on a management unit basis. The goal of the SH Program is:

> "To manage incremental silviculture activities for their maximum resource benefits, including non-timber values, for both their short and long term implications."

6.2 Purpose

Old growth forests have been harvested and new forests regenerated over vast areas of British Columbia using increasingly intensive management practices. While such practices may speed and increase the amount of wood fiber produced, they tend to limit the diversity of stand development phases and greatly shorten the time between logging disturbances relative to the potential range of natural structures and disturbance regimes. Intensive forest management usually produces stands that are structurally and compositionally homogeneous, resulting in a loss of habitat variability and biodiversity. Fortunately, the same silviculture activities used for fiber production can be modified to create or enhance desired habitat attributes and aid in the preservation of biodiversity.

The MELP strategic objective for the SH Program is:

> "The enhancement and protection of wildlife and fish habitat in second growth forests through planning, monitoring and training."

Planning

- setting regional and district strategies and priorities for protecting and enhancing environmental values;
- developing landscape unit plans detailing the location, type and extent of silviculture treatments best suited for habitat enhancement projects; and

- developing an information system to aid in the planning and evaluation of habitat management.

Monitoring

- to assess existing and proposed silviculture treatments relative to stated or desired objectives and results proposed in prescriptions;
- to assess the effectiveness of silviculture treatments in maintaining habitat and ecosystem function and diversity;
- to improve integration of fish, wildlife and water resource values with silviculture planning and implementation;
- to provide a baseline level of habitat and ecosystem information with which to better evaluate silviculture and other resource management objectives;
- to ensure terrestrial and aquatic ecosystems are not exposed to avoidable risks;
- to ensure that silviculture treatments are conducted in compliance with the Forest Practices Code; and
- results of monitoring should be used to refine practices, goals and priorities.

Training

- develop/refine guidelines for habitat protection and enhancement when conducting silviculture treatments in second growth stands; and training for licensees, contractors and ministry staff related to managing environmental values and non-timber resources, and implementation of habitat protection guidelines.

6.3 Process and Procedures

A review of the strategic documents listed in Table 1 and discussions with MELP Habitat Protection staff identified the need for the following habitat enhancement projects to aid in the preservation of biodiversity:

1. Black-tailed deer and Roosevelt elk spring forage enhancement
   - During winters of heavy snowfall, ungulates expend extra energy moving through deep snow, while taking in less energy from forage than normal. By spring, they may be weak and near starvation. Quality spring forage is needed close to winter ranges.

2. Deer and elk winter range enhancement
   - In several landscape units dominated by second growth, with few widely spaced winter ranges, there is a need to create additional winter ranges by hastening the development of old growth forest attributes.

3. Deer and elk winter thermal cover enhancement
   - In landscape units characterized by large areas in the early stages (herb, shrub-seedling, and sapling-pole) of forest succession, enhancement of deer and elk winter thermal cover is a priority at low elevations (< 300 meters) to help ensure ungulate survival during severe winters.
4. Grizzly bear forage enhancement

- Specific forest ecosystems in coastal valley bottoms are to be managed for grizzly bear forage to compensate for a loss of forage from forestry operations. These ecosystems occur in moist, nutrient-rich, areas of the Coastal Western Hemlock Zone.

5. Old growth attribute enhancement

- In heavily harvested landscape units characterized by second growth, it is a priority to re-establish old growth attributes on selected sites to meet the requirements of old growth dependent species (e.g., marbled murrelet, and cavity nesting birds and mammals).

6. Riparian restoration

- Prior to implementation of the Forest Practices Code, forests were often harvested to the edge of waterbodies. Frequently, these riparian areas regenerated to thick brush with poor conifer representation. In these areas, it is a priority to re-establish forests and habitat conditions similar to those that existed before harvest. Riparian restoration projects funded through the SH Program are not intended to be of the same magnitude or replace those funded through the EEV Program. Rather, if FRBC funded silviculture work is being conducted adjacent to logged riparian areas, then measures should be taken to re-establish habitat conditions similar to those that existed prior to logging.

Table 1. Harvest Supply Activities

TABLE 1: Sustainable Harvest Habitat Supply Activities

1	2	3	4	5	6					7	8	9
Primary Strategic Decision Area	**Secondary Strategic Decision Area**	**Management Unit**	**Resource Objective**	**Activity Proposed**	**Plan Goals (Hectares)**					**Required Funding for 00/01 ($,000)**	**2000/2001 Average Unit Cost ($/ha)**	**Priority**
					2000/01	**2001/02**	**2002/03**	**2003/04**	**2004/05**			
Strategic Direction for Habitat Protection	Biodiversity Guide	See Table 2 - 26 Region 1 Landscape Units	Deer and elk forage and thermal cover enhancement (shallow snow pack zone < 300 m elevation)		100	200	250	250	250			H
Towards an Old Growth Strategy Vancouver Island Land Use Plan Resource Management Zones for Vancouver Island	Landscape Unit Planning Guide TFL 6 - Management and Working Plan 8 TFL 19 - Management and Working Plan 8	See Table 3 - 29 Region 2 Landscape Units: Vancouver River Watershed See Table 4 - 27 Region 5 Landscape Units	Deer and elk forage and winter range enhancement (moderate snowpack zone 300-600 m elevation)	Canfor: 2000/01 - Treatment of 100 ha TW: 2000/01 - Assess 200 ha 2001/2002 - Treatment WFP: 2000/01 - Assess 40 ha 2001/02 - Treatment MB: 2000/01 - Treatment of 100 ha	100	125	200	200	200	212.5 16 8 180	2125 80 150 1800	M - H
Central Coast Land and Coastal Resource Management Plan	TFL 25 - Management and Working Plan 9 TFL 37 - Management and Working Plan 8 TFL 39 - Management and Working Plan 7 TFL 44 - Management and Working Plan 3 TFL 45 - Management and Working Plan TFL 46 - Management and Working Plan 3 TFL 47 - Management and Working Plan 2		Deer forage and deer winter range enhancement (lower portion of deep snowpack zone > 500 m but < 800 m elevation)		50	50	50	50	50			L
Strategic Direction for Habitat Enhancement Towards an Old Growth Strategy Vancouver Island Land Use Plan Resource Management Zones for Vancouver Island Central Coast Land and Coastal Resource Management Plan	Biodiversity Guide Landscape Unit Planning Guide Identified Wildlife Management Strategy TFL 6 - Management and Working Plan 8 TFL 19 - Management and Working Plan 8 TFL 25 - Management and Working Plan 9 TFL 37 - Management and Working Plan 8 TFL 39 - Management and Working Plan 7 TFL 44 - Management and Working Plan 3 TFL 45 - Management and Working Plan TFL 46 - Management and Working Plan 3 TFL 47 - Management and Working Plan 2	See Table 2 - 27 Region 1 Landscape Units See Table 3 - 33 Region 2 Landscape Units: Vancouver River Watershed See Table 4 - 28 Region 5 Landscape Units See Table 5 - 11 Region 6 Landscape Units	Old growth attribute enhancement		50	50	50	50	50			L
Strategic Direction for Habitat Protection Towards an Old Growth Strategy	Biodiversity Guide Landscape Unit Planning Guide Grizzly Bear Strategy Guidelines for Integrating Grizzly Bear Habitat and Silviculture in Coastal British Columbia TFL 25 - Management and Working Plan 9 TFL 45 - Management and Working Plan TFL 47 - Management and Working Plan 2	See Table 2 - 9 Region 1 Landscape Units See Table 3 - 24 Region 2 Landscape Units: Vancouver River Watershed See Table 4 - 26 Region 5 Landscape Units	Grizzly bear forage enhancement		100	200	250	250	250			H
Strategic Direction for Habitat Protection Vancouver Island Land Use Plan Resource Management Zones for Vancouver Island Central Coast Land and Coastal Resource Management Plan	Biodiversity Guide Landscape Unit Planning Guide Identified Wildlife Management Strategy TFL 6 - Management and Working Plan 8 TFL 19 - Management and Working Plan 8 TFL 25 - Management and Working Plan 9 TFL 37 - Management and Working Plan 8 TFL 39 - Management and Working Plan 7 TFL 44 - Management and Working Plan 3 TFL 45 - Management and Working Plan TFL 46 - Management and Working Plan 3 TFL 47 - Management and Working Plan 2	See Table 2 - 9 Region 1 Landscape Units See Table 3 - 26 Region 2 Landscape Units: Vancouver River Watershed See Table 4 - 23 Region 1 Landscape Units See Table 5 - 11 Region 6 Landscape Units	Riparian restoration	Canfor: 2000/01 - Treatment of 100 ha MB: 2000/01 - Treatment of ? ha	100	200	250	250	250	212.5 ?	2125 ?	H

NOTES:
Column 1 - Strategic plans that contain the habitat supply/biodiversity objective
Column 2 - Secondary plan/initiative that contains a more specific reference to the habitat supply/biodiversity objective
Column 3 - Management units where habitat enhancement is a priority
Column 4 - Resource objective: habitat enhancement activities of high importance to MoELP
Column 5 - Habitat enhancement activities proposed by forest licencees
Column 6 - The target number of hectares that MELP would enhanced
Column 7 - Funding should reflect the historical costs of surveys, prescription developments, silviculture treatments, and other activities
Column 8 - Average unit cost: funding should reflect historical costs. Where the activity is a portion of the treatment area an average cost over the treatment area is acceptable
Column 9 - Priority: H - high, M - medium, L - low

Canfor - Canadian Forest Products Ltd
WFP - Western Forest Products Ltd
MB - MacMillan Bloedel Ltd
TW - Timberwest Forest Products Ltd
? - information unavailable at time of RMP preparation

Appendix A provides a description of the desired habitat attributes for each type of habitat enhancement and information on site selection. While all silviculture treatments affect habitat supply positively in one way or another, only those projects where the main objective is habitat enhancement and involve treatments incremental to those of fiber production are classified as habitat enhancement.

All habitat enhancement projects listed in Table 1 were rated by MELP as being of high priority on an ecological basis for maintaining biodiversity. However, the Forest Practices Code and other provincial legislation does not make provision for the setting aside of second growth forests from the timber harvesting land base for habitat enhancement. Consequently, habitat enhancement projects were ranked on the probability that the desired habitat attributes would be achieved before harvest. Those projects requiring less time to achieve the desired habitat conditions, such as ungulate forage enhancement in the shallow snow pack zone, were given a higher priority than projects requiring long periods of time, such as deer winter range creation in the deep snow pack. A change in legislation is required to ensure continuity and investments in habitat supply are not lost.

Target numbers in hectares were assigned for each type of habitat enhancement (Table 1). Targets were based on the priority ranking of the habitat enhancement activity. Projects with a high priority ranking were assigned a higher target number of hectares to be enhanced than projects with a low ranking.

Areas that would benefit most by habitat enhancement were identified on a landscape unit basis. Landscape units were ranked primarily according to the biodiversity emphasis option assigned by District Forest Ecosystem Specialists. All landscape units with a biodiversity emphasis option of intermediate or high were rated as high priority for habitat enhancement projects. Landscape units with a low biodiversity emphasis option were also rated as high priority if any of the six identified habitat enhancement projects were considered important by MELP staff for the preservation of biodiversity in that particular unit.

Regions 1 (Table 2), 2 (Table 3) and 5 (Table 4) identified the need for ungulate forage and winter range enhancement, grizzly bear forage enhancement, old growth attribute enhancement and riparian restoration in several landscape units. MELP Region 2 identified the Vancouver River watershed as a high priority for all types of habitat enhancement. Old growth attribute enhancement and riparian restoration are considered key priorities within MELP Region 6 (Queen Charlotte Islands Forest District; Table 5).

The Sustainable Harvest Program provides a mechanism to implement activities which not only enhance the forested land base, but also make significant contributions to the associated non-timber values. MELP's goals of habitat enhancement and conservation of biodiversity can be addressed by adopting the following strategies:

Strategy:
"To establish and communicate broad, ecosystem level criteria for the protection and enhancement of non-timber values, to be incorporated into all Sustainable Harvest activity planning by 2003".

Tactics to achieve this include:

- setting regional and district strategies and priorities for protecting and enhancing values;
- developing landscape unit plans detailing the location, type and extent of silviculture treatments best suited for habitat enhancement projects;
- developing an information system to aid in the planning and evaluation of habitat management; and
- conveying strategies and information in landscape unit plans to licensees and the Ministry of Forests.

Strategy:
"To develop and implement operational harvest guidelines for all critical habitat types as identified by resource inventory information by year 2003".

Tactics to achieve this include:

- critical habitat types will be identified through site series mapping and inventories, and information already complied by the Conservation Data Centre;
- guidelines will be developed to protect and enhance existing habitat attributes;
- guidelines will be developed to restore important habitat attributes in second growth forests identified during landscape unit planning; and
- landscape units will be divided into different resource management zones. Specific guidelines will apply to each management zone and be incorporated into Silviculture Agreements (replacement to the Five Year Silviculture Plan).

Table 2. Region 1 landscape units rated as high priority for Ministry of Environment, Lands and Parks, FRBC Sustainable Harvest projects.

Landscape Unit	Proposed Activity Ungulate Forage, Thermal Cover and Winter Range Enhancement	Grizzly Bear Forage Enhancement	Old Growth Attribute Enhancement	Riparian Restoration
Adam-Eve	✓		✓	✓
Ahnuhati/Kwalate		✓		
Ahta		✓		
Artlish				✓
Ash			✓	
Bonanza	✓		✓	✓
Cameron	✓		✓	
Caycuse	✓		✓	
Chemainus	✓		✓	
China	✓		✓	
Corrigan	✓		✓	
Effingham	✓		✓	
Fulmore		✓		
Gold	✓		✓	
Gordon	✓		✓	
Gray		✓		
Great Central	✓		✓	
Holberg	✓		✓	✓
Kakweiken		✓		✓
Kaouk	✓		✓	✓
Keogh				✓
Klanawa	✓		✓	✓
Knight East		✓		
Koprino	✓		✓	
Little Qualicum	✓		✓	
Lower Kingcome		✓		✓
Lower Klinaklina	✓	✓	✓	✓
Lull-Sallie		✓		
Mahatta	✓		✓	✓
Marble				✓

TABLE 2 - CONTINUED

Region 1 landscape units rated as high priority for Ministry of Environment, Lands and Parks, FRBC Sustainable Harvest projects.

Proposed Activity

Landscape Unit	Ungulate Forage, Thermal Cover and Winter Range Enhancement	Grizzly Bear Forage Enhancement	Old Growth Attribute Enhancement	Riparian Restoration
Nahmint	✔		✔	✔
Nahwitti				✔
Nimpkish	✔		✔	✔
Nitinat	✔		✔	✔
Puntledge	✔		✔	
Qualicum	✔		✔	
Rosewall	✔		✔	
San Juan	✔		✔	
Sayward	✔		✔	✔
Sim		✔		
Snowdrift		✔		
Sproat Lake	✔		✔	
Stafford	✔	✔	✔	
Tahsish	✔		✔	
Tlupana				✔
Toquart	✔		✔	✔
Tsitika				✔
Upper Campbell	✔		✔	✔
Upper Kingcome		✔		
Vernon	✔		✔	
Wakeman		✔		✔
White	✔		✔	
Woss	✔		✔	

Table 3. Region 2 (Sunshine Coast and Chilliwack Forest Districts) landscape units rated as high priority for Ministry of Environment, Lands and Parks, FRBC Sustainable Harvest projects.

Proposed Activity

Landscape Unit	Ungulate Forage, Thermal Cover and Winter Range Enhancement	Grizzly Bear Forage Enhancement	Old Growth Attribute Enhancement	Riparian Restoration
Ainslie		✓		
Alouette				✓
Anderson	✓	✓	✓	✓
Big Silver	✓	✓	✓	✓
Brem	✓	✓	✓	✓
Brittain	✓		✓	✓
Bunster	✓		✓	✓
Bute East	✓	✓	✓	✓
Bute West		✓	✓	
Chapman	✓		✓	✓
Chehalis	✓		✓	✓
Chilliwack	✓	✓	✓	✓
Coquihalla	✓	✓	✓	✓
Cortes			✓	
East Harrison	✓	✓	✓	✓
West Harrison	✓		✓	
Haslam			✓	
Homfray	✓	✓	✓	✓
Homathko		✓	✓	✓
Howe	✓		✓	✓
Jervis/Deserted	✓	✓	✓	✓
Lois	✓		✓	✓
Manning	✓	✓		
Mehatl		✓		
Nahatlatch	✓	✓	✓	✓
Narrows	✓	✓	✓	✓
Pitt	✓	✓		✓
Powell (Daniels)	✓	✓	✓	✓
Powell Lake	✓		✓	
Quatum	✓	✓	✓	✓
Salmon	✓		✓	✓
Sechelt	✓		✓	
Silver Hope	✓	✓	✓	✓

TABLE 3 - CONTINUED

Region 2 (Sunshine Coast and Chilliwack Forest Districts) landscape units rated as high priority for Ministry of Environment, Lands and Parks, FRBC Sustainable Harvest projects.

Proposed Activity

Landscape Unit	Ungulate Forage, Thermal Cover and Winter Range Enhancement	Grizzly Bear Forage Enhancement	Old Growth Attribute Enhancement	Riparian Restoration
Skwawka	✓	✓	✓	✓
Southgate		✓	✓	
Spuzzum	✓	✓	✓	✓
Texada			✓	
Tretheway	✓	✓	✓	

Table 4. Region 5 (Mid-Coast Forest District) landscape units rated as high priority for Ministry of Environment, Lands and Parks, FRBC Sustainable Harvest projects.

Proposed Activity

Landscape Unit	Ungulate Forage and Winter Range Enhancement	Grizzly Bear Forage Enhancement	Old Growth Attribute Enhancement	Riparian Restoration
Bella Coola	✓	✓	✓	✓
South Bentinck	✓	✓	✓	✓
Braden	✓	✓	✓	✓
Clayton	✓	✓	✓	
Clyak	✓	✓	✓	
Dean	✓	✓	✓	✓
Draney	✓	✓	✓	✓
Fish Egg	✓		✓	✓
Kilbella/Chuckwalla	✓	✓	✓	
Lower Kimsquit	✓	✓	✓	✓
Upper Kimsquit	✓	✓	✓	✓
King Island	✓		✓	✓
Kwatna/Quatlena	✓	✓	✓	✓
Machmell	✓	✓	✓	✓
Neechanz		✓	✓	✓
Nekite	✓	✓	✓	✓
Nootum/Koeye	✓	✓	✓	✓
Nusatsum	✓	✓	✓	✓
Roderick	✓	✓	✓	✓
Roscoe	✓	✓	✓	✓
Saloompt	✓	✓	✓	✓
Sheemahant	✓	✓	✓	✓
Smitley/Noeick	✓	✓	✓	✓
Talchako/Gyllenspetz	✓	✓	✓	✓
Taleomey/Asseek	✓	✓	✓	
Twin	✓	✓	✓	✓
Washwash	✓	✓	✓	
Yeo	✓	✓	✓	✓

The top 15 landscape units in order of priority are:

- Kilbella/Chuckwalla, Nekite, Lower Kimsquit, Dean, Kwatna/Quatlena, Smitely/Noeick, Talchaco/Gyllenspetz, Bella Coola (includes Nusatsum and Salloompt), Taleomey/Asseek, South Bentinck, Sheemahant, Machmell, Draney, Upper Kimsquit, and King Island.

Table 5. Region 6 (Queen Charlotte Islands Forest District) landscape units rated as high priority for Ministry of Environment, Lands and Parks, FRBC Sustainable Harvest projects.

Proposed Activity

Landscape Unit	Old Growth Attribute Enhancement	Riparian Restoration
Eden Lake	✓	✓
Honna	✓	✓
Ian	✓	✓
Louise Island	✓	✓
Lower Yakoun	✓	✓
Masset Inlet	✓	✓
Rennell		✓
Sewell	✓	✓
Skidegate Lake	✓	✓
Tasu	✓	✓
Tlell	✓	
Yakoun Lake	✓	✓

6.4 Resource Management Issues

There are a number of studies and activities that FRBC should consider funding. At present, the selection of sites for habitat enhancement projects will be primarily by site series, stand seral stage, slope aspect and topography. In the future, site selection will be further refined through landscape unit planning. Funding is required from FRBC's SSFM Program to conduct silviculture history assessments to aid in this planning. Silviculture history assessments for landscape units with intermediate and high biodiversity emphasis options will be conducted first.

Silviculture history assessments will compile information of all known silviculture treatments conducted for each landscape unit, the year blocks were harvested, and the locations of any reported red and blue listed species or ecosystems. Blocks will be grouped into ten year intervals and colour-coded. Colour-coded harvest maps will provide a very useful visual interpretation of seral stage distribution, and the location of rock/alpine, wetlands, and remaining stands of old growth. This will aid in the selection of sites suitable for ungulate forage enhancement, the creation of deer and elk winter range in second growth, and other habitat enhancement projects. Trial assessments have already been conducted in Region 1 for the White River, Bonanza River, Gordon River and Cameron River landscape units.

Ungulate habitat enhancement projects for the 2000/01 RMP were only suggested for deer and elk; however, in Region 1 there is a need to identify priority landscape units and specific sites for mountain goat winter range and forage enhancement. The potential benefits and adverse impacts of stand manipulation for goat habitat enhancement also requires study.

There is a need to develop silviculture prescriptions specific for habitat enhancement in second growth stands. The use of silviculture treatments for habitat enhancement is relatively new compared to the practice of silviculture for fiber production. Research trials should be conducted to determine the best silviculture techniques to achieve the desired habitat attributes and to assess the impacts of these activities on the entire forest ecosystem. Results from research trials and monitoring will help develop and refine enhancement techniques.

The target number of hectares to be treated under each type of habitat enhancement project are to be used as performance measures in this RMP. The target number of hectares will be compared to the actual number of hectares treated. Further work on performance measures is required. The current performance measures do not directly contribute to timber volume gain or employment calculations, nor do they measure the effectiveness of the treatments for habitat enhancement.

Areas of backlog should be surveyed for habitat enhancement opportunities. Some backlog areas may be recommended for lower stocking levels if they have high wildlife habitat value in their current state.

Many FRBC sponsored projects involve vegetation management activities and thus the need for a Pesticide Use Permit (PUP) or an approved Pest Management Plan (PMP). MELP staff must review these applications; however, the ministry does not receive funding from FRBC for this added work. FRBC should consider compensating MELP for the review of PUPs and PMPs required for FRBC funded projects.

With the funding and undertaking of ungulate habitat enhancement projects comes the potential of crop tree seedling damage through browsing and trampling. FRBC should consider the funding of seedling protection within and surrounding ungulate habitat enhancement sites.

6.5 Recommended List of Resource Activities For Forest Renewal BC

As previously mentioned, there is currently no legislation making provision for the setting aside of second growth forests from the timber harvesting land base for habitat enhancement. Consequently, for the 2000/01 fiscal year MELP recommends that FRBC invest primarily in ungulate forage enhancement at low to mid elevations, and grizzly bear forage enhancement on the mainland coast. All these enhancements were assigned a high priority ranking by MELP because the desired habitat attributes would be achieved long before the next harvest (Table 1).

MELP also recommends that funds from the Sustainable Harvest Program be used for riparian restoration in riparian reserve zones. Although riparian restoration projects may require decades before all desired habitat attributes have developed, forest harvesting is not permitted in riparian reserve zones. At the time of RMP preparation, the forest companies operating within the FRBC Pacific Region have proposed ungulate forage and winter range enhancement projects and riparian restoration projects during the next fiscal year (Table 1).

Investment in the habitat enhancement activities discussed in the RMP will aid in the preservation of biodiversity, increase the production of high quality timber, and provide employment opportunities.

6.6 Communications Report

Contact was initiated via e-mail with MacMillan Bloedel Limited, International Forest Products Limited, Canadian Forest Products Limited, Western Forest Products Limited, Timberwest Forest Products Limited, Squamish Mills Limited (Soo TSA Co-operative) and Husby Forest Products Limited. Each company was provided with information on habitat enhancement projects considered a priority by MELP within the FRBC Pacific Region, and the landscape units where such projects should first be initiated. Subsequent correspondence was exchanged by e-mail, telephone and a meeting with MacMillan Bloedel Limited on September 2, 1999. On September 9, 1999, an overview of the SH section of the draft RMP was presented to the five major forest companies describing priority projects, how information was collected for the RMP, how habitat enhancements and landscape units were prioritized, and MELP's targets for the number of hectares to be treated for each type of habitat enhancement over the next five years.

Volume 3 Appendices

SUSTAINABLE HARVEST - MELP

APPENDIX A

MELP Habitat Enhancement Priorities
Sustainable Harvest Program

Review of strategic documents and discussions with Habitat Protection staff identified the need for six types of habitat projects: deer and elk spring forage enhancement, deer and elk winter range enhancement; deer and elk thermal cover enhancement, grizzly bear forage enhancement; old growth attribute enhancement; and riparian restoration. A brief description of the desired habitat attributes for each type of project and information on the selection of sites best suited for enhancement is provided below.

Black-tailed deer and Roosevelt elk spring forage enhancement

- During winters of heavy snowfall, ungulates expend extra energy moving through snow, while taking in less energy from forage than is normal. By spring, they may be weak and near death from starvation. At such times, it is critical for them to obtain highly nutritious food as soon as possible. Consequently, good quality spring forage is needed close to winter ranges. Spring forage enhancement projects are encouraged within 500 meters of deer and elk winter ranges to meet this requirement. On many potential spring ranges, growth of forage species is limited by the closed canopies of dense young forests. Techniques usually focus on creating forage beside cover areas either by sequentially harvesting small blocks, or by thinning stands which still have abundant forage species in the understory. Important deer and elk forage species are listed in Tables 1 and 2. Figures 1 and 2 provide information on which site series and understory types have the highest potential for deer and elk forage enhancement.

Deer and elk winter range enhancement

- In several landscape units dominated by second growth forests with few widely spaced winter ranges, there is a need to create additional winter ranges by hastening the development of old growth forest attributes on south facing slopes. Through manipulation of stand density and uniformity it may be possible to produce useful ungulate winter range in second growth stands much earlier than would occur naturally. The process begins with the selection of young stands, ideally Douglas-fir, on sites with appropriate topographic characteristics (southern exposure, 300 to 800 meters in elevation, slope 30 to 80 percent, and a few rocky outcrops). The primary approach is to thin and prune the stand early to maintain a good forage base and minimize debris accumulation. Stand development is then monitored and additional stem removal or pruning is conducted on small areas when forage production begins to decline. More detailed information on deer and elk winter range, thermal cover, and spring forage enhancement is provided in "J.B. Nyberg and D.W. Janz. 1990. *Deer and elk habitats in coastal forests of southern British Columbia.* MOF and MELP".

Table 1. Important forage plants for Columbian black-tailed deer in southern British Columbia.

The most important or preferred species are printed in bold type. The length of the winter forage list reflects the seasonal emphasis of the studies from which the table was compiled, rather than a greater diversity of diet during winter. Deer eat many more species in spring and summer, so the diet in any one area is seldom dominated by a few species.

	Winter Forage	**Spring Forage**	**Summer Forage**
Trees:	**Douglas-fir** western hemlock **western redcedar**	Bigleaf maple **Douglas-fir**	red alder
Shrubs:	Alaskan blueberry Five-leaved bramble kinnickkinnick oval-leaved blueberry **red huckleberry** rose spp. **Salal** saskatoon twinflower vine maple willow spp.	***Rubus*** spp. (salmonberry, blackberry, thimbleberry, raspberry, bramble) salal **willow spp.**	**salal** willow spp.
Ferns:	**deer fern**	**bracken**	
Herbs:	bunchberry grass spp.	bunchberry **fireweed** grass spp. hairy cat's-ear horsetail **pearly everlasting**	**fireweed** grass spp. hairy cat's ear **pearly everlasting**
Arboreal Lichens:	***Alectoria*** ***Bryoria*** *Lobaria oregana* ***Usnea* spp.**		

(From Nyberg, J.B. and D.W. Janz, 1990. *Deer and Elk Habitats in Coastal Forests of Southern British Columbia*. BC Ministry of Forests and BC Ministry of Environment, Lands and Parks.)

Table 2. Important forage plants for Roosevelt elk on Vancouver Island.

The most important or preferred species are printed in bold type.

	Winter Forage	Spring Forage	Summer Forage
Trees:	amabilis fir Douglas-fir **western hemlock** western redcedar	amabilis fir Douglas-fir **western hemlock**	**amabilis fir** western hemlock western redcedar
Shrubs:	devil's club **dull Oregon-grape** **Pacific ninebark** **red elderberry** *Rubus* spp. (salmonberry, blackberry, thimbleberry, raspberry, bramble) salal twinflower ***Vaccinium* spp.** (blueberry, huckleberry, cranberry) **willow spp.**	devil's club hardhack Pacific ninebark **salmonberry**	**bunchberry** devil's club dull Oregon-grape Pacific ninebark red elderberry **salmonberry** **twinflower**
Ferns:	**deer fern** lady fern **sword fern**	**deer fern** **sword fern**	**deer fern** lady fern **sword fern**
Herbs:	**grass spp.** **sedge spp.** skunk cabbage	bunchberry **grass spp.** **sedge spp.** skunk cabbage	**grass spp.** **sedge spp.** skunk cabbage wall lettuce

(From Nyberg, J.B. and D.W. Janz, 1990. *Deer and Elk Habitats in Coastal Forests of Southern British Columbia*. BC Ministry of Forests and BC Ministry of Environment, Lands and Parks.)

Deer and elk winter thermal cover enhancement

- In landscape units characterized by large areas in the early stages (herb, shrub-seedling, and sapling-pole) of forest succession, enhancement of deer and elk winter thermal cover is a priority at low elevations (< 300 meters) to help reduce energy expenditure and aid ungulate survival during severe winters. Thermal cover is provided by coniferous stands greater than 10 meters tall with canopy closure exceeding 70 percent. Stands with these characteristics will ameliorate temperature extremes, reduce excessive windspeeds, and throughfall of precipitation.

Grizzly bear forage enhancement

- Specific forest ecosystems in coastal valley bottoms of the mainland are to be managed for grizzly bear forage to compensate for a loss of forage from forestry operations (see A. Hamilton. 1994. *Guidelines for Integrating Grizzly Bear Habitat and Silviculture in Coastal British Columbia*). These ecosystems occur in nutrient rich areas of the Coastal Western Hemlock Zone on moist, very moist, wet and floodplain sites (Table 3). Before harvest, they are characterized by clusters of mature conifers, with numerous groupings of deciduous trees, open brushy areas, and skunk cabbage swamps. To mimic these conditions following harvest a clumped distribution of fewer crop trees is recommended, leaving open areas for berry-producing shrubs and other forage species. Important coastal grizzly bear forage species are listed in Table 4.

Old growth attribute enhancement

- In heavily harvested landscape units characterized by extensive areas of second growth, the rapid development of old growth attributes is important to meet the requirements of old growth dependent species (e.g., marbled murrelet, Queen Charlotte goshawk, and cavity nesting birds and mammals). Spacing, pruning, fertilizing, and thinning may hasten the development of these characteristics.

Riparian restoration

- Many cutblocks harvested prior to implementation of the Forest Practices Code were harvested to the edge of waterbodies. Frequently, these riparian areas regenerated to thick brush with poor conifer representation. In these areas, it is a priority to re-establish forests and habitat conditions similar to those that existed before harvest. Cluster planting with large nursery stock and reduced stocking rates may help meet these objectives. It is important to grow big trees as soon as possible to provide bank stability and vertical stand structure, and as future sources of wildlife trees and coarse woody debris for aquatic and terrestrial processes. Fast-growing and short-lived deciduous trees, such as red alder, black cottonwood and bigleaf maple, will be the first species to fulfill these roles. Consequently, deciduous tree representation is important in riparian areas currently lacking large conifers.

- Riparian restoration projects funded through the Enhanced Forestry Program are not intended to be of the same magnitude or replace those funded through the Watershed Restoration Program. Rather, if FRBC funded silviculture work is being conducted adjacent to logged riparian areas, then measures should be taken to re-establish habitat conditions similar to those that existed prior to logging.

Habitat enhancement projects involve such silviculture treatments as clumped planting, spacing, brushing, fertilizing and thinning. Habitat protection/enhancement guidelines for planning and conducting silviculture treatments are available from Habitat Protection, Region 1, MELP. The anticipated benefits of habitat enhancement projects include job creation, the production of high quality timber, sustainable deer, elk and grizzly bear populations, and the more rapid development of old growth forest characteristics in second growth stands to maintain biodiversity.

Table 3. Ecosystems and sites with the highest potential for producing grizzly bear forage.

For medium to very rich soil nutrient regimes only:

	Soil moisture regime	CWHvh (outer, inner)	CWHwm	CWHvm (submontane, montane)	CWHdm	CWHds (southern, central)	CWHms (southern, central)	CWHws (submontane, montane)
	Fresh	N/A	03 SsHw - Oak fern	05 BaCw - Foamflower	N/A	N/A	N/A	
	Moist	06 CwSs - Foamflower	04 SsHw - Devil's club	07 BaCw - Salmonberry[a] 08 BaSs - Devil's club[b]	07 Cw - Foamflower	07 Cw - Devil's club	06 BaCw - Devil's club	
	Very moist	07 CwSs - Devil's club						
	Wet	13 CwSs - Skunk cabbage	09 Ss - Skunk cabbage	[c]CwSs - Skunk cabbage				
FPL[d]	**high bench**	08 Ss - Lily-of-the-valley	[c]Ss - Salmonberry					
	medium bench	09 Ss - Trisetum	[c]Ac - Red-osier dogwood					
	low bench	10 Dr - Lily-of-the-valley	[c]Ac - Willow					

[a] In the Vancouver Forest Region CWHvm only.

[b] In the northern portion of the Vancouver Forest Region CWHvm and the Prince Rupert Forest Region CWHvm.

[c] Site series numbers vary by subzone; [d]FPL - floodplain.

(From Hamilton, A. 1994. Guidelines for Integrating Grizzly Bear Habitat and Silviculture in Coastal British Columbia. BC Ministry of Environment, Lands and Parks.)

Table 4. Coastal grizzly bear forage species (listed in descending order of preference).

Devil's club	*Oplopanax horridus*
Red elderberry	*Sambucus racemosa*
Currants & Gooseberries	*Ribes* spp.
Skunk cabbage	*Lysichitum americanum*
Small-flowered bulrush	*Scirpus microcarpus*
Sitka sedge	*Carex sitchensis*
Cow-parsnip	*Heracluem spondylium*
Mountain sweet-cicely	*Osmorhiza chilensis*
Kneeling angelica	*Angelica genuflexa*
Highbush-cranberry	*Viburnum edule*
Black twinberry	*Lonicera involucrata*
Salmonberry	*Rubus spectabilis*
Red raspberry	*Rubus idaeus*
Black raspberry	*Rubus leucodermis*
Trailing blackberry	*Rubus ursinus*
Blue & Huckleberries	*Vaccinium* spp.
Red-osier dogwood	*Cornus sericea*
Lady-fern	*Athyrium filix-femina*
Horsetails	*Equisetum* spp.
Hedge nettles	*Stachys* spp.
Water parsley	*Oenanthe sarmentosa*
Hemlock parsley	*Conioselinum pacificum*
Thimbleberry	*Rubus parviflorus*

(From " Hamilton, A. 1994. *Guidelines for Integrating Grizzly Bear Habitat and Silviculture in Coastal British Columbia.* BC Ministry of Environment, Lands and Parks.)

6.0 VOLUME 3

SUSTAINABLE HARVEST
Ministry of Forests

6.1 Introduction

The Sustainable Harvest (SH) component of the Resource Management Plan (RMP) fulfills the ministries SH planning obligations under the Multi-Year Agreements (Services) between the Ministry of Forests (MoF), Ministry of Environment Lands and Parks (MELP) and Forest Renewal BC (FRBC).

The SH component of RMPs contains identified opportunities and resource priorities for backlog reforestation, stand tending, forest health enhancement, forest health maintenance and current fire and pest funding opportunities.

The development of the RMP is based on forest district level work that integrates Tree Farm Licence (TFL) and Timber Supply Area (TSA) requirements. The backlog and enhanced forestry activities are developed by management unit and incorporated into the RMP by forest district/FRBC planning unit and summarized to the FRBC regional level.

The RMP document and data base provides a recommended list of resource management activities for the Forest Renewal BC Pacific Region for the 2000/2001 fiscal year.

6.2 Purpose

The RMP identifies opportunities and priorities for silviculture investment on a regional, forest district and management unit basis over a 5 year planning period. The district, regional and headquarters use the RMP to identify management issues, FRBC, MoF, MELP and industry priorities; and funding needs for government. The plan recommends a balance of program/activities that best meets the FRBC performance measures targets of both timber volume and value targets, with and without budget constraints.

6.3 Process and Procedures

Information on silviculture investment opportunities was collected for TSAs, TFLs and Woodlots. The 5 year plan goals are the estimated annual opportunities for an activity that will improve the biological and economic values of stands within the management unit. The unit costs that are shown in the plan are based on the latest information for an activity within a forest district.

TSAs

In 1998/1999, for all TSAs within the Vancouver Forest Region a Type 1 analysis was completed. The Type 1 analysis uses existing Timber Supply Review summary information to identify issues and opportunities for silviculture investment, producing interim TSA specific harvest level, timber quality and habitat objectives. Forest district staff reviewed last years RMP and where there were changes to the treatment regime/activity level tables they referred them to licensee contacts for information and input. An updated activity summary table was completed for the TSA.

TFLs

TFL licensee representatives were provided copies of the guidelines for the Sustainable Harvest Objective and the activity summary template and were requested to provide information on a supply block basis where a TFL is located in more than one forest district. The activity summary tables, treatment regime table and any supporting text were submitted to the district office in an electronic format.

Woodlots

Woodlots were integrated into the RMP at a regional level. Input on activity priorities was requested from the Woodlot Associations and forest districts.

Setting activity priorities

The priority and activity ranking used in the RMP considered the following.

- The priority indicated is a relative ranking of activities within a program (e.g. backlog or stand tending) as it relates to meeting management objectives, timber supply/timber quality targets and strategies for the management unit (exclusive of social objectives).
- Activities within a program (e.g. stand tending) or subprogram (for backlog: legal obligations, backlog reforestation, and impeded areas), are ranked numerically from 1 (highest) to 5 (lowest) relative to one another.
- For backlog activities the sub programs will generally rank as 1) - legal obligation (areas under a silviculture prescription and the treatment such as planting or site preparation has commenced),
  2) - impeded areas (brushing on stocked but not free growing areas) and 3) - backlog reforestation (initial treatment has not commenced). If for a management unit the backlog reforestation sub program ranking is different, written rationale is provided.
- The ranking should reflect the order of importance in meeting volume and value targets of a management unit and FRBC's strategic objectives for sustainable harvest i.e. invest in the production of faster growing, higher quality stands of second growth timber to increase the potential future harvest.
- For TFLs the ranking refers to activities within the supply block falling within the forest district.

The ranking of activities was to be guided by the following rating criteria:

High -1

- The activity is included in the timber supply review base case for a management unit (e.g. fertilizing 1000 ha/yr); or fill planting to meet backlog legal obligations.

High -2

- Activities that contribute to maintaining current harvest levels or that mitigate mid term shortfall e.g. fertilizing stands 10-30 years prior to harvest, or spacing to improve timber flow or spacing to set up stands for commercial thinning.

  Protecting backlog investment e.g. brushing impeded areas.

Medium -3

- Overall the activity will contribute towards achieving the volume and value targets and generally have a positive return on investment e.g. reforestation of good and medium backlog areas where treatment has not commenced; stand tending activities to increase volume or value of long term supply.

Low -4

- Overall the activity is considered low in achieving the volume and value targets. There is generally a marginally negative return on investment.

Low - 5

- The majority of stands under this activity are considered very low in achieving the volume and value targets and have a considerable negative return on investment.

  A written rationale was to be provided for the priority ranking of the activities.

Regime Table

The summary regime table was requested for all TFL submissions and was to follow the sample format that is included in the sustainable harvest guidelines.

Habitat Supply

MELP contacted licensees and forest districts concerning opportunities for implementing some treatment regimes to enhance habitat supply in identified high priority areas.

Forest district and regional roll up

The forest district rolled up the TFL and TSA summary Tables and integrated TFL supply block and TSA information. Within a forest district, the activity ranking within each planning unit was assessed and an overall ranking was assigned based on the level of opportunity, historical return on investment, and other factors. The assigned district activity ranking is general in nature intended to guide funding allocation. Individual projects may rank higher or lower. Some districts provided further ranking of treatment regimes to assist evaluation of project priority. The forest district RMP package was forwarded as an electronic copy to the regional office.

The submissions from the eight forest districts were rolled up to provide a regional summary. A recommended level of activities is provided that will achieve the regional goal, objectives, strategies and targets. The plan recommends a balance of program/activities that best meets the FRBC performance measures targets of both timber volume and value targets, with and without budget constraints.

6.4 Resource Management Issues

The resource management issues that need to be addressed in this and next year's plan are as follows:

- The completion of the initial treatment of backlog reforestation areas (currently not under a backlog silviculture prescription) including reclassification by 2001/2002; with particular emphasis placed on the acceptable cost limits for treatment.
- The completion of the legal obligations under a backlog silviculture prescription and placing high priority on protecting investments in previous backlog treatments by brushing where necessary. Conifer release projects require evaluation for need, and effectiveness of treatment in relation to cost.
- Areas identified under backlog reforestation opportunities require an evaluation for need and cost effectiveness of treatments.
- The maintenance of a fertilization program at a level that will realize optimal volume and value gains in recognition of its generally high return on investment.
- The maintenance of a spacing program that will support future fertilization, pruning and commercial thinning programs and capture optimal harvest flow volume and value gains.
- Development of a consistent approach for evaluation of activity projects with a standardized format for presenting supporting information.
- Ensure future plans provide treatment regime ranking for all management units.
- Next year refine the performance measures criteria and per cent contribution of the various activities and apply it to regional, district and management unit basis.
- Next year develop a budget allocation model linked to opportunities, return on investment and timber supply and timber value criteria.

6.4.1 Regional Goals

- Enhance the quantity and quality of timber supply and other forest resource values of Crown forests within the region through the application of appropriate silviculture treatments.
- Develop and implement a regional forest stewardship plan that guides silviculture investment within the region.

6.4.2 Regional Objectives

The objectives of the regional silviculture strategy are to:

- Reforest the remaining treatable backlog areas (within reasonable cost) and carry out stand tending treatments on impeded stand to meet free growing requirements.
- Ensure the long-term sustainable harvest approximates the current harvest value and volume levels and produces a diversified mix of products necessary to create and maintain sustainable forest employment.
- Balance treatments that enhance growth and yield such as fertilizing, spacing and forest health activities with those that increase the value of the wood such as pruning
- Utilize incremental silviculture treatments to contribute to sustainable management of environmental values at the landscape level.

6.4.3 Regional Strategies

Backlog Reforestation Program

- conduct surveys required to manage the backlog reforestation program;
- reclassify, site prepare or plant not satisfactorily restocked (NSR) areas by 2001/2002, within acceptable cost limits;
- maintain plantation investments through fill planting, vegetation management and forest health treatments, as required, to achieve free growing stands on all backlog areas by 2010;
- enhance fibre flow by rehabilitation of roads, landings or stand conversion by 2001/2002;
- conduct studies and monitor the treatment activities for effectiveness and cost efficiencies and provide recommendations for improving the program;

Enhanced Forestry Program

- conduct surveys and site evaluations to manage the enhanced forestry program to ensure that only high to medium priority stands are scheduled for treatment;
- protect prior treatment investments;
- juvenile space high and medium priority stands to facilitate fertilization and pruning treatments,
- juvenile space high priority stands in preparation of future commercial thinning;

- juvenile space in specific management units, where required, to improve fibre flow in the mid and long- term by increasing average piece size over a shorter rotation;
- fertilize medium and poor site Douglas-fir and western hemlock stands to increase volume and enhance fibre flow;
- prune high site index Douglas-fir, western hemlock and sitka spruce stands to increase stand value;
- conduct studies and monitor the treatment activities for effectiveness and cost efficiencies and provide recommendations for improving the program;
- improve habitat supply and environmental values through specific treatments that are supplemental to standard enhanced forestry activities

Current Fire and Pest Program

- conduct surveys required to manage the current fire and pest program;
- ensure that all recent fire and pest areas are regenerated and tended to achieve free growing stands;
- prune white pine stands to minimize losses to forest health factors;
- conduct studies and monitor the treatment activities for effectiveness and cost efficiencies and provide recommendations for improving the program;

6.4.4 Regional Targets

In the Region in fiscal year 2000/20001:

- Increase the timber available for harvest by 1 million cubic metres.
- Enhance the value of timber by 5% by volume through enhanced forestry treatments.

6.4.5 Performance Measures Indicators

For various activities, factors (regional averages) were applied to provide a measure of the effects of the treatment levels on meeting volume and value targets. Refer to Appendix 1 for assumptions used in calculating the performance measures. The treatment activity levels (minimum) to achieve both regional performance targets are as follows:

Table 1: Performance Measure Indicators

Activity	hectares	unit cost*	$ $	Volume increase m3	Value Increase m3
tree improvement	22,000	another program	another program	558,505	n/a
surveys	60,000	37	2,220,000	97,500	n/a
backlog planting	700	1,228	859,900	86,450	n/a
backlog brushing	3,615	837	3,028,750	58,744	n/a
spacing	7,500	1,600	12,000,000	95,200	285,599
fertilization	15,000	350	5,250,000	487,500	190,399
pruning 1 lift	1,300	2,000	2,600,000	n/a	103,133
pruning 2 lift	2,400	2,200	5,280,000	n/a	380,799
Totals	112,515		31,238,650	1,383,898	959,930
%				7.0	4.9

* Unit cost for backlog costs were as submitted, other activities are FRBC average per ha costs of 1998/99

6.5 Recommended Resource Activities

6.5.1 Regional Activity Opportunity Summaries (Total)

6.5.11 Backlog program

The total backlog program funding opportunities for the region are as follows:

Table 2: Backlog program regional activity opportunity summaries

Legal	**ha**	**ha**	**ha**	**ha**	**ha**	**2000/2001**
Obligations	**2000/2001**	**2001/2002**	**2002/2003**	**2003/2004**	**2004/2005**	**$ funding**
pln/surveys/prescriptions	6,894	4,765	3,193	2,752	2,246	277,676
site preparation	143	44	35	35	35	117,520
planting	41	91	85	85	83	33,000
brushing	168	78	69	41	41	196,500
Seed purchase	41	42	35	35	35	2,550
Max density	0	0	200	200	200	0
pruning	0	0	0	0	0	0
totals	7,287	5,020	3,617	3,148	2,640	627,246

Backlog **Reforestation**	**ha** **2000/2001**	**ha** **2001/2002**	**ha** **2002/2003**	**ha** **2003/2004**	**ha** **2004/2005**	**2000/2001** **$ funding**
pln/surveys/prescriptions	10,620	9,215	8,765	8,125	7,775	402,062
site preparation	152	95	40	25	25	144,500
Site restore	303	277	262	162	12	521,500
Planting	668	656	440	310	305	819,000
Brushing	670	640	640	545	450	944,250
Seed purchase	93	186	160	160	160	4,970
totals	12,506	11,069	10,307	9,327	8,727	2,836,282

Backlog **Impeded**	**ha** **2000/2001**	**ha** **2001/2002**	**ha** **2002/2003**	**ha** **2003/2004**	**ha** **2004/2005**	**2000/2001** **$ funding**
pln/surveys/prescriptions	16,744	12,955	12,193	10,885	9,335	719,537
site preparation	0	0	0	0	0	0
planting	101	35	0	0	0	152,900
brushing	3,302	2,662	2,167	1,800	1,800	3,557,260
Seed purchase	0	0	0	0	0	0
Totals	20,177	15,652	14,360	1,685	11,135	4,429,697

Backlog **Totals**	**ha** **2000/2001**	**ha** **2001/2002**	**ha** **2002/2003**	**ha** **2003/2004**	**ha** **2004/2005**	**2000/2001** **$ funding**
pln/surveys/prescriptions	34,288	26,935	24,151	21,762	19,356	1,399,275
site preparation	295	139	75	60	60	262,020
Site restore	303	277	262	162	12	521,500
planting	810	782	525	395	388	1,004,900
brushing	4,140	3,380	2,876	2,386	2,291	4,698,010
seed purchase	134	228	195	195	195	7,520
max density	0	0	200	200	200	0
pruning	0	0	0	0	0	0
sudies	25	0	0	0	0	56,500
totals	39,995	31,741	28,284	25,160	22,502	7,949,725

6.5.12 Enhanced forestry Program

The total enhanced forestry program funding opportunities for the region are as follows:

Table 3: Enhanced forestry program regional activity opportunity summaries

Enhanced **Forestry**	**ha** **2000/2001**	**ha** **2001/2002**	**ha** **2002/2003**	**ha** **2003/2004**	**ha** **2004/2005**	**2000/2001** **$ funding**
pln/surveys/prescriptions	29,027	26,454	25,300	25,245	24,445	1,480,700
spacing	7,249	7,070	7,075	7,020	7,105	12,700,650
pruning	3,514	3,147	3,241	3,294	3,067	7,852,025
fertilizing	16,332	14,035	13,510	13,270	13,745	5,762,800
studies	258	159	158	158	157	271,500
other	355	320	350	350	350	695,000
totals	56,735	51,185	49,634	49,337	48,869	28,762,675

6.5.13 Forest Health Enhancement

The total forest health enhancement program funding opportunities for the region are as follows:

Table 4: Forest health enhancement regional activity opportunity summaries

Forest Health	**ha**	**ha**	**ha**	**ha**	**ha**	**2000/2001**
Enhancement	**2000/2001**	**2001/2002**	**2002/2003**	**2003/2004**	**2004/2005**	**$ funding**
Site rehab	235	225	225	5	5	35,800
spacing	184	124	124	54	54	303,200
pruning	125	205	205	165	165	71,600
studies	51	50	50	50	50	54,000
other	206	206	186	186	186	113,000
Total	801	810	790	460	460	577,600

6.5.14 Forest Health Maintenance

The total forest health maintenance program funding opportunities for the region are as follows:

Table 5: Forest health maintenance regional activity opportunity summaries

Forest Health	**ha**	**ha**	**ha**	**ha**	**ha**	**2000/2001**
Maintenance	**2000/2001**	**2001/2002**	**2002/2003**	**2003/2004**	**2004/2005**	**$ funding**
ground surveys	624	540	540	540	540	13,320
aerial surveys	48	48	48	48	48	35,050
Fall and burn	0	0	0	0	0	0
MSMA	0	0	0	0	0	0
pheromone	150	150	150	150	150	5,000
defoliator spray	0	0	0	0	0	0
studies	0	0	0	0	0	0
other	0	0	0	0	0	0
Total	822	738	738	738	738	53,370

6.5.15 Current Fire and Pest

The total current fire and pest program funding opportunities for the region are as follows:

Table 6: Current fire and pest regional activity opportunity summaries

Current Fire	**ha**	**ha**	**ha**	**ha**	**ha**	**2000/2001**
And Pest	**2000/2001**	**2001/2002**	**2002/2003**	**2003/2004**	**2004/2005**	**$ funding**
surveys	1,137	1,061	1,311	137	311	60,150
site prep	0	100	50	100	100	0
planting	211	311	161	111	111	216,500
brushing	2	2	102	102	2	2,400
Max density	0	0	0	0	0	0
studies	0	0	0	0	0	0
other	0	0	0	0	0	0
Total	1,350	1,474	1,624	450	524	279,050

6.5.2 Activity Opportunity Summaries by Forest District (Total) for 2000/2001

Refer to Appendix 2 (hectares) and Appendix 3 (dollars).

6.5.3 Enhanced Forestry Program Activity Level Opportunities by Forest District for 2000/2001 by Per Cent

In Table 7, the % of total is the recommended balance between opportunities (dollar value) required to approach the 2000/2001 volume and value targets of 1 million cubic metres and 5% respectively. The per cent activity opportunity by forest district is based on the total hectare opportunity for an activity

Table 7: Enhanced Forestry Activity Opportunity ***per cent***

Activity	% 0f total	DCK	DSQ	DSC	DSI	DCR	DPM	DMC	DQC	Total
surveys	7	12	11	10	30	24	6	3	4	100
spacing	**40**	15	18	18	7	17	5	10	10	100
pruning	**30**	15	6	29	9	18	6	12	5	100
fertilizing	**22**	10	9	2	22	31	20	0	6	100
studies	**.5**	0	9	0	3	48	3	0	37	100
other	**.5**	0	0	12	49	0	24	14	1	100
Total	**100**									

6.5.4 Recommended Activity Level by Forest District for 2000/2001 by Per Cent

6.5.41 Backlog forestry (33%)
Recommend all backlog activities be funded (the lesser of 6 million dollars or 33% of the regional sustainable harvest budget).

Recommend that the backlog forestry funding to forest district planning units be guided by the percentages in Table 8.

Table 8: Backlog Forestry Recommended Activity per cent

Activity	DCK	DSQ	DSC	DSI	DCR	DPM	DMC	DQC	Total
Backlog	5	9	7	23	13	22	5	16	100

6.5.42 Forest health enhancement (3%)

Recommend all forest health enhancement activities be funded.

6.5.43 Enhanced forestry (64%)

Recommend that the enhanced forestry funding to forest district planning units be guided by the percentages in Table 9. The regional percentage breakdown by activity (% of total) considers the cost of treatment and the balance between activities necessary to approach both the regional volume and value targets of 1 million cubic metres per year and 5 % value respectively. The forest district percentage breakdown by activity takes into consideration opportunities available, historical treatment levels, annual allowable cut (AAC) contribution, timber supply falldowns and costs of treatment. The allocation between TFLs/TSAs in the absence of forest level analysis and an allocation model should be guided by the total activity treatment opportunities, historical return on investment, the activity priority and the contribution from TFLs and TSA lands in relation to the total AAC for a forest district.

Table 9: Enhanced Forestry Recommended Activity ***per cent***

Activity	% 0f total	DCK	DSQ	DSC	DSI	DCR	DPM	DMC	DQC	Total
surveys	7	13	12	10	15	25	12	6	7	100
spacing	**40**	15	15	20	10	20	10	5	5	100
pruning	**30**	15	5	20	10	30	10	5	5	100
fertilizing	**22**	15	10	0	20	30	20	0	5	100
studies	**.5**	0	10	0	5	45	5	0	35	100
other	**.5**	0	0	15	45	0	20	0	20	100
Total	**100**									

6.5.5 Recommended budget allocation (dollars and hectares)

Assuming a 20 million dollar budget for the sustainable harvest objective, recommend that the budget allocation for the backlog forestry, forest health enhancement and the enhanced forestry program to forest district planning units be guided by the numbers in Tables 10a, 10b, and 10c.

Table 10a: Backlog Forestry Recommended Allocation of Program Dollars

Program	**DCK**	**DSQ**	**DSC**	**DSI**	**DCR**	**DPM**	**DMC**	**DQC**	**Total**
	$	$	$	$	$	$	$	$	$
Backlog	300,000	540,000	420,000	1,380,000	780,000	1,380,000	300,000	960,000	6,000,000

Table 10b: Forest Health Enhancement Recommended Allocation of Program Dollars

Program	**DCK**	**DSQ**	**DSC**	**DSI**	**DCR**	**DPM**	**DMC**	**DQC**	**Total**
	$	$	$	$	$	$	$	$	$
Health	0	0	150,000	72,000	24,000	30,000	24,000	300,000	600,000

Table 10c: Enhanced Forestry Recommended Allocation of Program Dollars

Activity	**% 0f total**	**DCK**	**DSQ**	**DSC**	**DSI**	**DCR**	**DPM**	**DMC**	**DQC**	**Total**
		$	$	$	$	$	$	$	$	$
surveys	7	121,940	112,560	93,800	140,700	234,500	112,560	56,280	65,660	938,000
spacing	**40**	804,000	804,000	1,072,000	536,000	1,072,000	536,000	268,000	268,000	5,360,000
pruning	**30**	603,000	201,000	804,000	402,000	1,206,000	402,000	201,000	201,000	4,020,000
fertilizing	**22**	442,200	294,800	0	589,600	884,400	589,600	0	147,400	2,948,000
Studies	**.5**	0	0	0	0	130,000	0	0	0	130,000
other	**.5**	0	0	0	0	0	0	0	4,000	4,000
Total	**100**	1,971,140	1,411,560	1,969,800	1,668,300	3,526,500	1,640,160	525,280	686,060	13,400,000

Table 11a: Backlog Forestry Ha Goals at Recommended Allocation of Program Dollars

Program	**DCK**	**DSQ**	**DSC**	**DSI**	**DCR**	**DPM**	**DMC**	**DQC**	**Total**
	ha	ha	ha	ha	ha	ha	ha	ha	ha
surveys	542	984	1,300	105	5,425	2,821	1,787	4,443	17,407
planting	3	30	35	0	196	21	0	0	285
brushing	12	130	125	910	238	1,064	130	660	3,269
total	557	1,144	1,460	1,015	5,859	3,906	1,917	5,103	20,961

Table 11b: Forest Health Enhancement Ha Goals at Recommended Allocation of Program Dollars

Program	**DCK**	**DSQ**	**DSC**	**DSI**	**DCR**	**DPM**	**DMC**	**DQC**	**Total**
	ha	ha	ha	ha	ha	ha	ha	ha	ha
Site rehab	0	0	0	5	0	0	0	230	235
Spacing	0	0	54	0	0	0	0	130	184
pruning	0	0	25	100	0	0	0	0	125
total	0	0	79	105	0	0	0	360	544

Table 11c: Enhanced Forestry Ha Goals at Recommended Allocation of Program Dollars

Activity	DCK	DSQ	DSC	DSI	DCR	DPM	DMC	DQC	Total
	ha	ha	ha	ha	ha	ha	ha	ha	ha
surveys	2,439	1,732	1,251	5,025	4,425	1,407	1,149	887	18,315
spacing	577	593	592	624	494	258	122	139	3,399
pruning	431	90	324	268	438	177	89	66	1,883
fertilizing	474	1138	0	2,303	2,808	1,322	0	185	9,230
Studies									
other									
Total	4,921	3,553	2,167	8,220	8,165	3,164	1,360	1,277	32,827

6.5.6 Performance Measures Indicators at Recommended Allocation of Program Dollars

Assuming a 20 million dollar budget for the sustainable harvest objective the effects of the treatment levels of the recommended allocation on volume and value are shown in Table 12.

Table 12: Performance Measure Indicators at Recommended Program $ Allocation

Activity	hectares	unit cost*	$ $ **	Volume increase m3	Value Increase m3
tree improvement	22,000	another program	another program	558,505	n/a
surveys	35,722	45	1,607,490	58048	n/a
backlog planting	520	1,241	645,320	64220	n/a
backlog brushing	3,269	1,135	3,710,315	53121	n/a
spacing	3,583	1,581	5,663,200	45480	136440
fertilization	9,230	319	2,948,000	299975	117159
pruning 1 lift	785	2,038	1,595,724	n/a	103133
pruning 2 lift	1,223	2,038	2,495,876	n/a	380799
Totals			18,665,925	1,079,349	737531
%				5.5	2.6

* Unit costs were as submitted, weighted by recommended allocation and spacing and pruning includes forest health enhancement activities.

** Only includes dollar values for those activities that contribute to performance measures

6.6 Communication Report

Communication with licensee representatives by the district and regional staff was conducted by e-mail, telephone, fax and a meeting held on September 9, 1999. The major issues raised were related to the setting of the overall priority for activities within a forest district, how the priorities will be applied and the values assigned to the activities in the performance measures calculation. All ministry communication with licensee contacts relating to the RMP process is recorded in a standardized spreadsheet (see Appendix 15).

Volume 3 Appendices

SUSTAINABLE HARVEST - MOF

(Please refer to the separate binder (District Folder Directories) containing these appendices.)

September 30, 1999

SUSTAINABLE HARVEST OBJECTIVE

MINISTRY OF FORESTS

A COMPONENT OF THE VANCOUVER FOREST REGION

2000-2001

RESOURCE MANAGEMENT PLAN

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The Sustainable Harvest Component of the Resource Management Plan Vancouver Forest Region

6.1 Introduction

The Sustainable Harvest (SH) component of the Resource Management Plan (RMP) fulfills the ministries SH planning obligations under the Multi-Year Agreements (Services) between the Ministry of Forests (MoF), Ministry of Environment Lands and Parks (MELP) and Forest Renewal BC (FRBC).

The SH component of RMPs contains identified opportunities and resource priorities for backlog reforestation, stand tending, forest health enhancement, forest health maintenance and current fire and pest funding opportunities.

The development of the RMP is based on forest district level work that integrates Tree Farm Licence (TFL) and Timber Supply Area (TSA) requirements. The backlog and enhanced forestry activities are developed by management unit and incorporated into the RMP by forest district/FRBC planning unit and summarized to the FRBC regional level.

The RMP document and data base provides a recommended list of resource management activities for the Forest Renewal BC Pacific Region for the 2000/2001 fiscal year.

6.2 Purpose

The RMP identifies opportunities and priorities for silviculture investment on a regional, forest district and management unit basis over a 5 year planning period. The district, regional and headquarters use the RMP to identify management issues, FRBC, MoF, MELP and industry priorities; and funding needs for government. The plan recommends a balance of program/activities that best meets the FRBC performance measures targets of both timber volume and value targets, with and without budget constraints.

6.3 Process and Procedures

Information on silviculture investment opportunities was collected for TSAs, TFLs and Woodlots. The 5 year plan goals are the estimated annual opportunities for an activity that will improve the biological and economic values of stands within the management unit. The unit costs that are shown in the plan are based on the latest information for an activity within a forest district.

TSAs

In 1998/1999, for all TSAs within the Vancouver Forest Region a Type 1 analysis was completed. The Type 1 analysis uses existing Timber Supply Review summary information to identify issues and opportunities for silviculture investment, producing interim TSA specific harvest level, timber quality and habitat objectives. Forest district staff reviewed last years RMP and where there were changes to the treatment regime/activity level tables they referred them to licensee contacts for information and input. An updated activity summary table was completed for the TSA.

TFLs

TFL licensee representatives were provided copies of the guidelines for the Sustainable Harvest Objective and the activity summary template and were requested to provide information on a supply block basis where a TFL is located in more than one forest district. The activity summary tables, treatment regime table and any supporting text were submitted to the district office in an electronic format.

Woodlots

Woodlots were integrated into the RMP at a regional level. Input on activity priorities was requested from the Woodlot Associations and forest districts.

Setting activity priorities

The priority and activity ranking used in the RMP considered the following.

- The priority indicated is a relative ranking of activities within a program (e.g. backlog or stand tending) as it relates to meeting management objectives, timber supply/timber quality targets and strategies for the management unit (exclusive of social objectives).
- Activities within a program (e.g. stand tending) or subprogram (for backlog: legal obligations, backlog reforestation, and impeded areas), are ranked numerically from 1 (highest) to 5 (lowest) relative to one another.
- For backlog activities the sub programs will generally rank as 1) - legal obligation (areas under a silviculture prescription and the treatment such as planting or site preparation has commenced), 2) - impeded areas (brushing on stocked but not free growing areas) and 3) - backlog reforestation (initial treatment has not commenced). If for a management unit the backlog reforestation sub program ranking is different, written rationale is provided.
- The ranking should reflect the order of importance in meeting volume and value targets of a management unit and FRBC's strategic objectives for sustainable harvest i.e. invest in the production of faster growing, higher quality stands of second growth timber to increase the potential future harvest.
- For TFLs the ranking refers to activities within the supply block falling within the forest district.

The ranking of activities was to be guided by the following rating criteria:

High -1	The activity is included in the timber supply review base case for a management unit (e.g. fertilizing 1000 ha/yr); or fill planting to meet backlog legal obligations.
High -2	Activities that contribute to maintaining current harvest levels or that mitigate mid term shortfall e.g. fertilizing stands 10-30 years prior to harvest, or spacing to improve timber flow or spacing to set up stands for commercial thinning. Protecting backlog investment e.g. brushing impeded areas.
Medium -3	Overall the activity will contribute towards achieving the volume and value targets and generally have a positive return on investment e.g. reforestation of good and medium backlog areas where treatment has not commenced; stand tending activities to increase volume or value of long term supply.
Low -4	Overall the activity is considered low in achieving the volume and value targets. There is generally a marginally negative return on investment.
Low - 5	The majority of stands under this activity are considered very low in achieving the volume and value targets and have a considerable negative return on investment.

A written rationale was to be provided for the priority ranking of the activities.

Regime Table

The summary regime table was requested for all TFL submissions and was to follow the sample format that is included in the sustainable harvest guidelines.

Habitat Supply

MELP contacted licensees and forest districts concerning opportunities for implementing some treatment regimes to enhance habitat supply in identified high priority areas.

Forest district and regional roll up

The forest district rolled up the TFL and TSA summary Tables and integrated TFL supply block and TSA information. Within a forest district, the activity ranking within each planning unit was assessed and an overall ranking was assigned based on the level of opportunity, historical return on investment, and other factors. The assigned district activity ranking is general in nature intended to guide funding allocation. Individual projects may rank higher or lower. Some districts provided further ranking of treatment regimes to assist evaluation of project priority. The forest district RMP package was forwarded as an electronic copy to the regional office.

The submissions from the eight forest districts were rolled up to provide a regional summary. A recommended level of activities is provided that will achieve the regional goal, objectives, strategies and targets. The plan recommends a balance of program/activities that best meets the FRBC performance measures targets of both timber volume and value targets, with and without budget constraints.

6.4 Resource Management Issues

The resource management issues that need to be addressed in this and next years plan are as follows:

- The completion of the initial treatment of backlog reforestation areas (currently not under a backlog silviculture prescription) including reclassification by 2001/2002; with particular emphasis placed on the acceptable cost limits for treatment.
- The completion of the legal obligations under a backlog silviculture prescription and placing high priority on protecting investments in previous backlog treatments by brushing where necessary. Conifer release projects require evaluation for need, and effectiveness of treatment in relation to cost.
- Areas identified under backlog reforestation opportunities require an evaluation for need and cost effectiveness of treatments.
- The maintenance of a fertilization program at a level that will realize optimal volume and value gains in recognition of its generally high return on investment.
- The maintenance of a spacing program that will support future fertilization, pruning and commercial thinning programs and capture optimal harvest flow volume and value gains.
- Development of a consistent approach for evaluation of activity projects with a standardized format for presenting supporting information.
- Ensure future plans provide treatment regime ranking for all management units.
- Next year refine the performance measures criteria and per cent contribution of the various activities and apply it to regional, district and management unit basis.
- Next year develop a budget allocation model linked to opportunities, return on investment and timber supply and timber value criteria.

6.4.1 Regional Goals

- Enhance the quantity and quality of timber supply and other forest resource values of Crown forests within the region through the application of appropriate silviculture treatments.
- Develop and implement a regional forest stewardship plan that guides silviculture investment within the region.

6.4.2 Regional Objectives

The objectives of the regional silviculture strategy are to:

- Reforest the remaining treatable backlog areas (within reasonable cost) and carry out stand tending treatments on impeded stand to meet free growing requirements.
- Ensure the long-term sustainable harvest approximates the current harvest value and volume levels and produces a diversified mix of products necessary to create and maintain sustainable forest employment.
- Balance treatments that enhance growth and yield such as fertilizing, spacing and forest health activities with those that increase the value of the wood such as pruning
- Utilize incremental silviculture treatments to contribute to sustainable management of environmental values at the landscape level.

6.4.3 Regional Strategies

Backlog Reforestation Program

- conduct surveys required to manage the backlog reforestation program;
- reclassify, site prepare or plant not satisfactorily restocked (NSR) areas by 2001/2002, within acceptable cost limits;
- maintain plantation investments through fill planting, vegetation management and forest health treatments, as required, to achieve free growing stands on all backlog areas by 2010;
- enhance fibre flow by rehabilitation of roads, landings or stand conversion by 2001/2002;
- conduct studies and monitor the treatment activities for effectiveness and cost efficiencies and provide recommendations for improving the program;

Enhanced Forestry Program

- conduct surveys and site evaluations to manage the enhanced forestry program to ensure that only high to medium priority stands are scheduled for treatment;
- protect prior treatment investments;
- juvenile space high and medium priority stands to facilitate fertilization and pruning treatments,
- juvenile space high priority stands in preparation of future commercial thinning;
- juvenile space in specific management units, where required, to improve fibre flow in the mid and long-term by increasing average piece size over a shorter rotation;
- fertilize medium and poor site Douglas-fir and western hemlock stands to increase volume and enhance fibre flow;
- prune high site index Douglas-fir, western hemlock and sitka spruce stands to increase stand value;
- conduct studies and monitor the treatment activities for effectiveness and cost efficiencies and provide recommendations for improving the program;
- improve habitat supply and environmental values through specific treatments that are supplemental to standard enhanced forestry activities;

Current Fire and Pest Program

- conduct surveys required to manage the current fire and pest program;
- ensure that all recent fire and pest areas are regenerated and tended to achieve free growing stands;
- prune white pine stands to minimize losses to forest health factors;
- conduct studies and monitor the treatment activities for effectiveness and cost efficiencies and provide recommendations for improving the program;

6.4.4 Regional Targets

In the Region in fiscal year 2000/20001:

- Increase the timber available for harvest by 1 million cubic metres.
- Enhance the value of timber by 5% by volume through enhanced forestry treatments.

6.4.5 Performance Measures Indicators

For various activities, factors (regional averages) were applied to provide a measure of the effects of the treatment levels on meeting volume and value targets. Refer to Appendix 1 for assumptions used in calculating the performance measures. The treatment activity levels (minimum) to achieve both regional performance targets are as follows:

Table 1: Performance Measure Indicators

Activity	hectares	unit cost*	$ $	Volume increase m3	Value Increase m3
tree improvement	22,000	another program	another program	558,505	n/a
surveys	60,000	37	2,220,000	97,500	n/a
backlog planting	700	1,228	859,900	86,450	n/a
backlog brushing	3,615	837	3,028,750	58,744	n/a
spacing	7,500	1,600	12,000,000	95,200	285,599
fertilization	15,000	350	5,250,000	487,500	190,399
pruning 1 lift	1,300	2,000	2,600,000	n/a	103,133
pruning 2 lift	2,400	2,200	5,280,000	n/a	380,799
Totals	112,515		31,238,650	1,383,898	959,930
%				7.0	4.9

* Unit cost for backlog costs were as submitted, other activities are FRBC average per ha costs of 1998/99

6.5 Recommended Resource Activities

6.5.1 Regional Activity Opportunity Summaries (Total)

6.5.11 Backlog program

The total backlog program funding opportunities for the region are as follows:

Table 2: Backlog program regional activity opportunity summaries

Legal	**ha**	**ha**	**ha**	**ha**	**ha**	**2000/2001**
Obligations	**2000/2001**	**2001/2002**	**2002/2003**	**2003/2004**	**2004/2005**	**$ funding**
pln/surveys/prescriptions	6,894	4,765	3,193	2,752	2,246	277,676
site preparation	143	44	35	35	35	117,520
planting	41	91	85	85	83	33,000
brushing	168	78	69	41	41	196,500
Seed purchase	41	42	35	35	35	2,550
Max density	0	0	200	200	200	0
pruning	0	0	0	0	0	0
totals	7,287	5,020	3,617	3,148	2,640	627,246

Backlog	**ha**	**ha**	**ha**	**ha**	**ha**	**2000/2001**
Reforestation	**2000/2001**	**2001/2002**	**2002/2003**	**2003/2004**	**2004/2005**	**$ funding**
pln/surveys/prescriptions	10,620	9,215	8,765	8,125	7,775	402,062
site preparation	152	95	40	25	25	144,500
Site restore	303	277	262	162	12	521,500
Planting	668	656	440	310	305	819,000
Brushing	670	640	640	545	450	944,250
Seed purchase	93	186	160	160	160	4,970
totals	12,506	11,069	10,307	9,327	8,727	2,836,282

Backlog	**ha**	**ha**	**ha**	**ha**	**ha**	**2000/2001**
Impeded	**2000/2001**	**2001/2002**	**2002/2003**	**2003/2004**	**2004/2005**	**$ funding**
pln/surveys/prescriptions	16,744	12,955	12,193	10,885	9,335	719,537
site preparation	0	0	0	0	0	0
planting	101	35	0	0	0	152,900
brushing	3,302	2,662	2,167	1,800	1,800	3,557,260
Seed purchase	0	0	0	0	0	0
Totals	20,177	15,652	14,360	1,685	11,135	4,429,697

Backlog	**ha**	**ha**	**ha**	**ha**	**ha**	**2000/2001**
Totals	**2000/2001**	**2001/2002**	**2002/2003**	**2003/2004**	**2004/2005**	**$ funding**
pln/surveys/prescriptions	34,288	26,935	24,151	21,762	19,356	1,399,275
site preparation	295	139	75	60	60	262,020
Site restore	303	277	262	162	12	521,500
planting	810	782	525	395	388	1,004,900
brushing	4,140	3,380	2,876	2,386	2,291	4,698,010
seed purchase	134	228	195	195	195	7,520
max density	0	0	200	200	200	0
pruning	0	0	0	0	0	0
sudies	25	0	0	0	0	56,500
totals	39,995	31,741	28,284	25,160	22,502	7,949,725

6.5.12 Enhanced forestry Program

The total enhanced forestry program funding opportunities for the region are as follows:

Table 3: Enhanced forestry program regional activity opportunity summaries

Enhanced	**ha**	**ha**	**ha**	**ha**	**ha**	**2000/2001**
Forestry	**2000/2001**	**2001/2002**	**2002/2003**	**2003/2004**	**2004/2005**	**$ funding**
pln/surveys/prescriptions	29,027	26,454	25,300	25,245	24,445	1,480,700
spacing	7,249	7,070	7,075	7,020	7,105	12,700,650
pruning	3,514	3,147	3,241	3,294	3,067	7,852,025
fertilizing	16,332	14,035	13,510	13,270	13,745	5,762,800
studies	258	159	158	158	157	271,500
other	355	320	350	350	350	695,000
totals	56,735	51,185	49,634	49,337	48,869	28,762,675

6.5.13 Forest Health Enhancement

The total forest health enhancement program funding opportunities for the region are as follows:

Table 4: Forest health enhancement regional activity opportunity summaries

Forest Health	**ha**	**ha**	**ha**	**ha**	**ha**	**2000/2001**
Enhancement	**2000/2001**	**2001/2002**	**2002/2003**	**2003/2004**	**2004/2005**	**$ funding**
Site rehab	235	225	225	5	5	35,800
spacing	184	124	124	54	54	303,200
pruning	125	205	205	165	165	71,600
studies	51	50	50	50	50	54,000
other	206	206	186	186	186	113,000
Total	801	810	790	460	460	577,600

6.5.14 Forest Health Maintenance

The total forest health maintenance program funding opportunities for the region are as follows:

Table 5: Forest health maintenance regional activity opportunity summaries

Forest Health	**ha**	**ha**	**ha**	**ha**	**ha**	**2000/2001**
Maintenance	**2000/2001**	**2001/2002**	**2002/2003**	**2003/2004**	**2004/2005**	**$ funding**
ground surveys	624	540	540	540	540	13,320
aerial surveys	48	48	48	48	48	35,050
Fall and burn	0	0	0	0	0	0
MSMA	0	0	0	0	0	0
pheromone	150	150	150	150	150	5,000
defoliator spray	0	0	0	0	0	0
studies	0	0	0	0	0	0
other	0	0	0	0	0	0
Total	822	738	738	738	738	53,370

6.5.15 Current Fire and Pest

The total current fire and pest program funding opportunities for the region are as follows:

Table 6: Current fire and pest regional activity opportunity summaries

Current Fire And Pest	**ha 2000/2001**	**ha 2001/2002**	**ha 2002/2003**	**ha 2003/2004**	**ha 2004/2005**	**2000/2001 $ funding**
surveys	1.137	1,061	1.311	137	311	60.150
site prep	0	100	50	100	100	0
planting	211	311	161	111	111	216.500
brushing	2	2	102	102	2	2.400
Max density	0	0	0	0	0	0
studies	0	0	0	0	0	0
other	0	0	0	0	0	0
Total	1.350	1.474	1.624	450	524	279.050

6.5.2 Activity Opportunity Summaries by Forest District (Total) for 2000/2001

Refer to Appendix 2 (hectares) and Appendix 3 (dollars).

6.5.3 Enhanced Forestry Program Activity Level Opportunities by Forest District for 2000/2001 by Per Cent

In Table 7, the % of total is the recommended balance between opportunities (dollar value) required to approach the 2000/2001 volume and value targets of 1 million cubic metres and 5% respectively. The per cent activity opportunity by forest district is based on the total hectare opportunity for an activity

Table 7: Enhanced Forestry Activity Opportunity ***per cent***

Activity	**% 0f total**	**DCK**	**DSQ**	**DSC**	**DSI**	**DCR**	**DPM**	**DMC**	**DQC**	**Total**
surveys	7	12	11	10	30	24	6	3	4	100
spacing	**40**	15	18	18	7	17	5	10	10	100
pruning	**30**	15	6	29	9	18	6	12	5	100
fertilizing	**22**	10	9	2	22	31	20	0	6	100
studies	.5	0	9	0	3	48	3	0	37	100
other	.5	0	0	12	49	0	24	14	1	100
Total	**100**									

6.5.4 Recommended Activity Level by Forest District for 2000/2001 by Per Cent

6.5.41 Backlog forestry (33%)
Recommend all backlog activities be funded (the lesser of 6 million dollars or 33% of the regional sustainable harvest budget).

Recommend that the backlog forestry funding to forest district planning units be guided by the percentages in Table 8.

Table 8: Backlog Forestry *Recommended Activity* ***per cent***

Activity	DCK	DSQ	DSC	DSI	DCR	DPM	DMC	DQC	Total
Backlog	5	9	7	23	13	22	5	16	100

6.5.42 Forest health enhancement (3%)
Recommend all forest health enhancement activities be funded.

6.5.43 Enhanced forestry (64%)

Recommend that the enhanced forestry funding to forest district planning units be guided by the percentages in Table 9. The regional percentage breakdown by activity (% of total) considers the cost of treatment and the balance between activities necessary to approach both the regional volume and value targets of 1 million cubic metres per year and 5 % value respectively. The forest district percentage breakdown by activity takes into consideration opportunities available, historical treatment levels, annual allowable cut (AAC) contribution, timber supply falldowns and costs of treatment. The allocation between TFLs/TSAs in the absence of forest level analysis and an allocation model should be guided by the total activity treatment opportunities, historical return on investment, the activity priority and the contribution from TFLs and TSA lands in relation to the total AAC for a forest district.

Table 9: Enhanced Forestry *Recommended Activity* ***per cent***

Activity	% 0f total	DCK	DSQ	DSC	DSI	DCR	DPM	DMC	DQC	Total
surveys	7	13	12	10	15	25	12	6	7	100
spacing	**40**	15	15	20	10	20	10	5	5	100
pruning	**30**	15	5	20	10	30	10	5	5	100
fertilizing	**22**	15	10	0	20	30	20	0	5	100
studies	**.5**	0	10	0	5	45	5	0	35	100
other	**.5**	0	0	15	45	0	20	0	20	100
Total	**100**									

6.5.5 Recommended budget allocation (dollars and hectares)

Assuming a 20 million dollar budget for the sustainable harvest objective, recommend that the budget allocation for the backlog forestry, forest health enhancement and the enhanced forestry program to forest district planning units be guided by the numbers in Tables 10a, 10b, and 10c.

Table 10a: Backlog Forestry *Recommended Allocation of Program Dollars*

Program	DCK	DSQ	DSC	DSI	DCR	DPM	DMC	DQC	Total
	$	$	$	$	$	$	$	$	$
Backlog	300,000	540,000	420,000	1,380,000	780,000	1,380,000	300,000	960,000	6,000,000

Table 10b: Forest Health Enhancement *Recommended Allocation of Program Dollars*

Program	DCK	DSQ	DSC	DSI	DCR	DPM	DMC	DQC	Total
	$	$	$	$	$	$	$	$	$
Health	0	0	150,000	72,000	24,000	30,000	24,000	300,000	600,000

Table 10c: Enhanced Forestry *Recommended Allocation of Program Dollars*

Activity	% 0f total	DCK	DSQ	DSC	DSI	DCR	DPM	DMC	DQC	Total
		$	$	$	$	$	$	$	$	$
surveys	7	121,940	112,560	93,800	140,700	234,500	112,560	56,280	65,660	938,000
spacing	**40**	804,000	804,000	1,072,000	536,000	1,072,000	536,000	268,000	268,000	5,360,000
pruning	**30**	603,000	201,000	804,000	402,000	1,206,000	402,000	201,000	201,000	4,020,000
fertilizing	**22**	442,200	294,800	0	589,600	884,400	589,600	0	147,400	2,948,000
Studies	**.5**	0	0	0	0	130,000	0	0	0	130,000
other	**.5**	0	0	0	0	0	0	0	4,000	4,000
Total	**100**	1,971,140	1,411,560	1,969,800	1,668,300	3,526,500	1,640,160	525,280	686,060	13,400,000

Table 11a: Backlog Forestry *Ha Goals at Recommended Allocation of Program Dollars*

Program	DCK	DSQ	DSC	DSI	DCR	DPM	DMC	DQC	Total
	ha	ha	ha	ha	ha	ha	ha	ha	ha
surveys	542	984	1,300	105	5,425	2,821	1,787	4,443	17,407
planting	3	30	35	0	196	21	0	0	285
brushing	12	130	125	910	238	1,064	130	660	3,269
total	557	1,144	1,460	1,015	5,859	3,906	1,917	5,103	20,961

Table 11b: Forest Health Enhancement Ha Goals at Recommended Allocation of Program Dollars

Program	DCK	DSQ	DSC	DSI	DCR	DPM	DMC	DQC	Total
	ha	ha	ha	ha	ha	ha	ha	ha	ha
Site rehab	0	0	0	5	0	0	0	230	235
Spacing	0	0	54	0	0	0	0	130	184
pruning	0	0	25	100	0	0	0	0	125
total	0	0	79	105	0	0	0	360	544

Table 11c: Enhanced Forestry *Ha Goals at Recommended Allocation of Program Dollars*

Activity	**DCK**	**DSQ**	**DSC**	**DSI**	**DCR**	**DPM**	**DMC**	**DQC**	**Total**
	ha	ha	ha	ha	ha	ha	ha	ha	ha
surveys	2,439	1,732	1,251	5,025	4,425	1,407	1,149	887	18,315
spacing	577	593	592	624	494	258	122	139	3,399
pruning	431	90	324	268	438	177	89	66	1,883
fertilizing	474	1138	0	2,303	2,808	1,322	0	185	9,230
Studies									
other									
Total	4,921	3,553	2,167	8,220	8,165	3,164	1,360	1,277	32,827

6.5.6 Performance Measures Indicators at Recommended Allocation of Program Dollars

Assuming a 20 million dollar budget for the sustainable harvest objective the effects of the treatment levels of the recommended allocation on volume and value are shown in Table 12.

Table 12: Performance Measure Indicators at Recommended Program $ Allocation

Activity	hectares	unit cost*	$ $ **	Volume increase m3	Value Increase m3
tree improvement	22,000	another program	another program	558,505	n/a
surveys	35,722	45	1,607,490	58048	n/a
backlog planting	520	1,241	645,320	64220	n/a
backlog brushing	3,269	1,135	3,710,315	53121	n/a
spacing	3,583	1,581	5,663,200	45480	136440
fertilization	9,230	319	2,948,000	299975	117159
pruning 1 lift	785	2,038	1,595,724	n/a	103133
pruning 2 lift	1,223	2,038	2,495,876	n/a	380799
Totals			18,665,925	1,079,349	737531
%				5.5	2.6

* Unit costs were as submitted, weighted by recommended allocation and spacing and pruning includes forest health enhancement activities.

** Only includes dollar values for those activities that contribute to performance measures

6.6 Communication Report

Communication with licensee representatives by the district and regional staff was conducted by e-mail, telephone, fax and a meeting held on September 9, 1999. The major issues raised were related to the setting of the overall priority for activities within a forest district, how the priorities will be applied and the values assigned to the activities in the performance measures calculation. All ministry communication with licensee contacts relating to the RMP process is recorded in a standardized spreadsheet (see Appendix 15).

APPENDICES

Appendix 1
Performance Measures Assumptions

The following assumptions were used when calculating the effects of various treatments on volume and value.

AAC:	the AAC for the Vancouver Forest Region is 19,674,600 m3
Annual Harvest:	31,000,000 hectares per year

Volume:

Tree Improvement

- Estimate 70% of the 31,000 ha/yr harvested is planted with "A" class orchard seed or 22000 ha;
- on average a 4% volume gain is estimated over a rotation;
- volume gain is calculated in relation to present AAC of 19,674,600 m3;
- example calculation is:

(% of annual harvest treated)	X	(% volume gain)	X	(AAC)	=	(total volume gain)
22000 ha/31000 ha	X	.04	X	19,674,600 m3/yr	=	558,505 m3

Silviculture Surveys

- the potential volume gain from surveys from improved stocking and productivity (Operational Adjustment Factor or site index change) is estimated at .25 m3/ha/yr over a 65 year rotation;
- it is assumed that 10% of silviculture surveys fall into this category;
- example calculation is:

(ha surveyed)	X	(% type of survey)	X	(volume gain in 65 yrs)	=	(total volume gain)
60,000 ha	X	.10	X	.25 m3/ha/yr X 65 yrs	=	97,500 m3

Backlog Planting

- the potential volume gain from planting NSR areas is estimated at 1.9 m3/ha/yr over a 65 year rotation;
- example calculation:

(backlog ha planted)	X	(volume gain in 65 yrs)	=	(total volume gain)
700 ha	X	1.9 m3/ha/yr X 65 yrs	=	86,450 m3

Backlog Brushing

- the potential volume gain from brushing impeded backlog areas is estimated at .25 m3/ha/yr over a 65 year rotation;
- example calculation:

(backlog ha brushed)	X	(volume gain in 65 yrs)	=	(total volume gain)
3,615 ha	X	.25 m3/ha/yr X 65 yrs	=	58,743 m3

Spacing

- Assumes a 2% volume gain over a rotation;
- volume gain is calculated in relation to present AAC of 19,674,600 m3;
- example calculation is:

(% of annual harvest treated)	X	(% volume gain)	X	(AAC)	=	(total volume gain)
7500 ha/31000 ha	X	.02	X	19,674,600 m3/yr	=	95,200 m3

Fertilization

- on average a 5% volume gain is estimated over a rotation;
- volume gain is calculated in relation to present AAC of 19,674,600 m3;
- example calculation is:

(% of annual harvest treated)	X	(% volume gain)	X	(AAC)	=	(total volume gain)
15000 ha/31000 ha	X	.05	X	19,674,600 m3/yr	=	487,500 m3

Appendix 1
Performance Measures Assumptions (cont'd)

Value

Spacing

- on average a 6% value gain is estimated over a rotation through larger piece size;
- value gain expressed as volume affected is calculated in relation to present AAC of 19,674,600 m3;
- example calculation is:

(% of annual harvest treated) X (% volume gain) X (AAC) = (total value gain)
7500 ha/31000 ha X .06 X 19,674,600 m3/yr = 285,599m3

fertilization

- on average a 2% value gain is estimated over a rotation through larger piece size;
- value gain expressed as volume affected is calculated in relation to present AAC of 19,674,600 m3;
- example calculation is:

(% of annual harvest treated) X (% volume gain) X (AAC) = (total value gain)
15000 ha/31000 ha X .02 X 19,674,600 m3/yr = 190,399 m3

1 lift prune to 3.5m

- on average a12.5 % value gain (% of tree and stand affected) through clear lumber is estimated over a rotation;
- value gain expressed as volume affected is calculated in relation to present AAC of 19,674,600 m3;
- example calculation is:

(% of annual harvest treated) X (% volume gain in value) X (AAC) = (total value gain)
1300 ha/31000 ha X .125 . X 19,674,600 m3/yr = 103,133m3

1 lift prune to 5.5m (one treatment)

- on average a 25% value gain (% of tree and stand affected) through clear lumber is estimated over a rotation;
- value gain expressed as volume affected is calculated in relation to present AAC of 19,674,600 m3;
- example calculation is:

(% of annual harvest treated) X (% volume gain) X (AAC) = (total value gain)
2400 ha/31000 ha X .25 X 19,674,600 m3/yr = 380,799m3

APPENDIX 1

Vancouver Forest Region: Performance indicators for volume and value for 2000/2001 to meet targets

performance measure	Activity									
	tree improve	surveys	backlog planting	backlog brushing	spacing	fertilization	1 lift prune	2 lift in one prune	total volume increm m3 over 65 yrs	total value improve m3 over 65 yrs
Volume increase										
ha treated	22000	60000	700	3615	7500	15000	1300	2400		
in m3	558505	97500	86450	58744	95200	487500	0	0	1383898	
m3/ha/yr	0.50	0.25	1.9	0.25	0.2	0.5			7.0%	
% gain	4%				2%	5%				
Value gain										
in m3					285599	190399	103133	380799		959930
value improvement					6%	2%	12.5%	25%		4.9%

APPENDIX 1

Vancouver Forest Region: Performance indicators for volume and value for 2000/2001 at Recommended Allocation

performance measure	**Activity**									
	tree improve	surveys	backlog planting	backlog brushing	spacing	fertilization	1 lift prune	2 lift in one prune	total volume increm m3 over 65 yrs	total value improve m3 over 65 yrs
Volume increase										
ha treated	22000	35722	520	3269	3583	9230	785	1223		
in m3	558505	58048.25	64220	53121	45480	299975			1079349	
m3/ha/yr	0.50	0.25	1.9	0.25	0.2	0.5			5.5%	
% gain	4%				2%	5%				
Value gain										
in m3					136440	117159	62276	194049		509924
value improvement					6%	2%	12.5%	25%		2.6%

Appendix 2: Vancouver Forest Region Backlog Activity Opportunities in Hectares
2000/2001
September 20 1999

Backlog	DCK			DSQ			DSC				DSI					
hectares	TSA	TFL26-Miss	Total	TSA	TFL38-IFP	Total	TSA	TFL10-IFP	TFL39-MB	Total	TSA	TFL25-WFP	TFL54-IFP	TFL44-MB	TFL46-TFL	Total
Legal																
surveys	118	0	118	400	0	400	0	0	0	0	0	0	0	0	0	0
site prep	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
planting	6	0	6	30	0	30	0	0	0	0	0	0	0	0	0	0
brushing	78	0	78	30	0	30	0	0	0	0	0	0	0	0	0	0
seed	6	0	6	30	0	30	0	0	0	0	0	0	0	0	0	0
max density	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
pruning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	211	0	211	490	0	490	0	0	0	0	0	0	0	0	0	0
Refor.																
surveys	140	0	140	300	875	1175	0	200	150	350	100	0	70	250	200	620
site prep	27	0	27	25	0	25	0	0	0	0	0	0	0	0	0	0
site restore	0	0	0	0	0	0	0	0	276	276	0	0	0	0	0	0
planting	13	0	13	50	20	70	0	0	35	35	10	0	45	250	0	305
brushing	0	0	0	50	200	250	0	0	65	65	0	0	0	0	0	0
seed	13	0	13	50	0	50	0	0	0	0	0	0	0	0	5	5
Total	193	0	193	475	1095	1570	0	200	526	726	110	0	115	500	205	930
impeded																
surveys	425	0	425	900	0	900	1300	0	0	1300	2000	0	260	3100	800	6160
site prep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
planting	0	0	0	0	0	0	35	0	0	35	0	0	0	0	0	0
brushing	155	0	155	100	0	100	125	0	0	125	300	0	40	550	20	910
seed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	580	0	580	1000	0	1000	1460	0	0	1460	2300	0	300	3650	820	7070

Backlog	DCK			DSQ			DSC				DSI					
Totals	TSA	TFL26-Miss	Total	TSA	TFL38-IFP	Total	TSA	TFL10-IFP	TFL39-MB	Total	TSA	TFL25-WFP	TFL54-IFP	TFL44-MB	TFL46-TFL	Total
Region																
surveys	683	0	683	1600	875	2475	1300	200	150	1650	2100	0	330	3350	1000	6780
site prep	30	0	30	25	0	25	0	0	0	0	0	0	0	0	0	0
site restore	0	0	0	0	0	0	0	0	276	276	0	0	0	0	0	0
planting	19	0	19	80	20	100	35	0	35	70	10	0	45	250	0	305
brushing	233	0	233	180	200	380	125	0	65	190	300	0	40	550	20	910
seed	19	0	19	80	0	80	0	0	0	0	0	0	0	0	5	5
max density	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
pruning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
studies	0	0	0	490	0	490	0	0	0	0	0	0	0	0	1	1
Totals	984	0	984	2455	1095	3550	1460	200	526	2186	2410	0	415	4150	1026	8001

Vancouver Forest Region Backlog Activity Opportunities in Hectares
2000/2001
September 20 1999

Backlog	DCR							DPM							DMC			
hectares	TSA	TFL19-WFP	TFL25-WFP	TFL45-IFP	TFL39-MB	TFL47-TFL	Total	TSA	TFL6-WFP	TFL45-IFP	TFL37-CFP	TFL39-MB	TFL47-TFL	Total	TSA	TFL25-WFP	TFL38-MB	Total
Legal																		
surveys	0	500	229	0	2000	0	2729	0	0	0	0	0	0	0	1787	0	0	1787
site prep	0	0	140	0	0	0	140	0	0	0	0	0	0	0	0	0	0	0
planting	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0
brushing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
seed	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0
max density	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
pruning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	510	369	0	2000	0	2879	0	0	0	0	0	0	0	1787	0	0	1787
Refor.																		
surveys	0	0	98	0	600	200	898	1700	0	0	0	1000	100	2800	175	347	0	522
site prep	0	0	0	0	0	0	0	100	0	0	0	0	0	100	0	0	0	0
site restore	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0
planting	0	0	0	0	25	0	25	200	0	0	0	5	0	205	0	0	0	0
brushing	0	0	0	50	0	0	50	0	0	0	0	100	0	100	155	20	0	175
seed	0	0	0	0	0	10	10	0	0	0	0	0	5	5	0	0	0	0
Total	0	0	98	50	627	210	985	2000	0	0	0	1105	105	3210	330	367	0	697
impeded																		
surveys	500	100	62	0	1100	800	2562	500	912	0	500	0	900	2812	0	0	0	0
site prep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
planting	0	0	0	0	0	0	0	0	11	0	10	0	0	21	0	0	0	0
brushing	100	0	8	0	110	20	238	500	544	0	10	0	10	1064	110	20	0	130
seed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	600	100	70	0	1210	820	2800	1000	1467	0	520	0	910	3897	110	20	0	130

Backlog	*DCR*							DPM							DMC			
Totals	*TSA*	TFL19-WFP	TFL25-WFP	TFL45-IFP	TFL39-MB	TFL47-TFL	Total	TSA	TFL6-WFP	TFL45-IFP	TFL37-CFP	TFL39-MB	TFL47-TFL	Total	TSA	TFL25-WFP	TFL38-MB	Total
Region																		
surveys	500	600	389	0	3700	1000	6189	1700	912	0	500	1000	1000	5112	1962	347	0	2309
site prep	0	0	140	0	0	0	140	100	0	0	0	0	0	100	0	0	0	0
site restore	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0
planting	0	5	0	0	25	0	30	200	11	0	10	5	0	226	0	0	0	0
brushing	100	0	8	50	110	20	288	500	544	0	10	100	10	1164	265	40	0	305
seed	0	5	0	0	0	10	15	0	0	0	0	0	5	5	0	0	0	0
max density	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
pruning	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Studies	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
Totals	600	610	537	50	3837	1030	6664	2501	1467	0	520	1105	1015	6608	2227	387	0	2614

Vancouver Forest Region Backlog Activity Opportunities in Hectares
2000/2001
September 20 1999

Backlog	DQC					
hectares	TSA	TFL25-WFP	TFL39-MB	TFL47-TFL	Total	Grand Total
Legal						
surveys	460	0	1000	400	1860	6894
site prep	0	0	0	0	0	143
planting	0	0	0	0	0	41
brushing	60	0	0	0	60	168
seed	0	0	0	0	0	41
max density	0	0	0	0	0	0
pruning	0	0	0	0	0	0
Total	520	0	1000	400	1920	7287
Refor.						
surveys	15	0	4000	100	4115	10620
site prep	0	0	0	0	0	152
site restore	15	0	5	5	25	303
planting	0	0	10	5	15	668
brushing	0	0	20	10	30	670
seed	0	0	10	0	10	93
Total	30	0	4045	120	4195	12506
impeded						
surveys	95	500	2000	20	2615	16774
site prep	0	0	0	0	0	0
planting	45	0	0	0	45	101
brushing	120	50	400	10	580	3302
seed	0	0	0	0	0	0
Total	260	550	2400	30	3240	20177

Backlog	DQC					
Totals	TSA	TFL25-WFP	TFL39-MB	TFL47-TFL	Total	Grand Total
Region						
surveys	570	500	7000	520	8590	33788
site prep	0	0	0	0	0	295
site restore	15	0	5	5	25	303
planting	45	0	10	5	60	810
brushing	180	50	420	20	670	4140
seed	0	0	10	0	10	134
max density	0	0	0	0	0	0
pruning	0	0	0	0	0	0
studies	0	0	5	20	25	517
Total	810	550	7450	570	9380	39987

Appendix 2 Vancouver Forest Region Enhanced Forestry Opportunities in Hectares
2000/2001
1999/20/09

Enhanced Forestry	DCK			DSQ			DSC				DSI					
	TSA	TFL26-Miss	Total	TSA	TFL38-IFP	Total	TSA	TFL10-IFP	TFL39-MB	Total	TSA	TFL25-WFP	TFL54-IFP	TFL44-MB	TFL46-TFL	Total
Surveys	3500	80	3580	2400	650	3050	2000	0	800	2800	2000	50	40	2200	4500	8790
Spacing	1000	60	1060	1200	150	1350	1200	0	75	1275	350	0	40	140	10	540
Pruning	500	24	524	150	80	230	1000	0	20	1020	250	50	0	0	0	300
Fertilizing	1500	200	1700	1400	50	1450	400	0	0	400	1000	0	0	400	2100	3500
Studies	0	0	0	100	0	100	0	0	0	0	0	0	0	0	1	1
other	0	0	0	0	0	0	0	0	50	50	0	0	0	150	0	150
Total	6500	364	6864	5250	930	6180	4600	0	945	5545	3600	100	80	2890	6611	13281

Enhanced Forestry	DCR							DPM						
	TSA	TFL19-WFP	TFL25-WFP	TFL45-IFP	TFL39-MB	TFL47-TFL	Total	TSA	TFL6-WFP	TFL45-IFP	TFL37-CFP	TFL39-MB	TFL47-TFL	Total
Surveys	3500	900	200	0	1400	1000	7000	700	520	0	10	400	200	1830
Spacing	750	275	20	0	100	88	1233	100	109	0	10	40	90	349
Pruning	250	255	20	50	55	0	630	100	116	0	0	0	0	216
Fertilizing	1500	1050	660	50	1000	788	5048	500	1214	0	1075	400	0	3189
Studies	2	100	0	0	13	1	116	0	0	0	0	0	1	1
other	0	0	0	0	0	0	0	0	20	0	0	20	35	75
Total	6002	2580	900	100	2568	1877	14027	1400	1979	0	1095	860	326	5660

Enhanced Forestry	DMC				DQC					
	TSA	TFL25-WFP	TFL38-MB	Total	TSA	TFL25-WFP	TFL39-MB	TFL47-TFL	Total	Grand Total
Surveys	637	0	100	737	390	250	400	200	1240	29027
Spacing	543	129	20	692	290	250	200	10	750	7249
Pruning	250	167	0	417	100	50	25	2	177	3514
Fertilizing	0	0	0	0	25	950	50	20	1045	16332
Studies	0	0	0	0	0	0	40	0	40	258
other	30	0	0	30	0	0	30	20	50	355
Total	1460	296	120	1876	805	1500	745	252	3302	56735

Appendix 2 Vancouver Forest Region Forest Health Enhancement Opportunities in Hectares
2000/2001
1999/20/09

Forest	DCK			DSQ			DSC				DSI					
Health Enhan	TSA	TFL26-Miss	Total	TSA	TFL38-IFP	Total	TSA	TFL10-IFP	TFL39-MB	Total	TSA	TFL25-WFP	TFL54-IFP	TFL44-MB	TFL46-TFL	Total
site rehab	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5
Spacing	0	0	0	0	0	0	54	0	0	54	0	0	0	0	0	0
Pruning	0	0	0	0	0	0	25	0	0	25	100	0	0	0	0	100
Studies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
other	0	0	0	0	0	0	186	0	0	186	0	0	0	0	0	0
Total	0	0	0	0	0	0	265	0	0	265	100	0	0	0	5	105

Forest	DCR							DPM						
Health Enhan	TSA	TFL19-WFP	TFL25-WFP	TFL45-IFP	TFL39-MB	TFL47-TFL	Total	TSA	TFL6-WFP	TFL45-IFP	TFL37-CFP	TFL39-MB	TFL47-TFL	Total
site rehab	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spacing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pruning	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Studies	0	0	0	0	0	0	0	10	0	0	0	0	0	10
other	0	20	0	0	0	0	20	0	0	0	0	0	0	0
Total	0	20	0	0	0	0	20	10	0	0	0	0	0	10

Forest	DMC				DQC					
Health Enhan	TSA	TFL25-WFP	TFL38-MB	Total	TSA	TFL25-WFP	TFL39-MB	TFL47-TFL	Total	Grand Total
site rehab	0	0	0	0	0	0	200	30	230	235
Spacing	0	0	0	0	0	0	100	30	130	184
Pruning	0	0	0	0	0	0		0	0	125
Studies	1	0	0	1	0	0	20	20	40	51
other	0	0	0	0	0	0		0	0	206
Total	1	0	0	1	0	0	320	80	400	801

Appendix 2 Vancouver Forest Region Forest Health Maintenance Opportunities in Hectares
2000/2001
1999/20/09

Forest	DCK			DSQ			DSC				DSI					
Health Main	TSA	TFL26-Miss	Total	TSA	TFL38-IFP	Total	TSA	TFL10-IFP	TFL39-MB	Total	TSA	TFL25-WFP	TFL54-IFP	TFL44-MB	TFL46-TFL	Total
ground surv	0	0	0	0	0	0	540	0	0	540	0	0	0	0	0	0
aerial surv	3	0	3	0	0	0	15	0	0	15	7	0	0	0	3	10
fall and burn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MSMA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
pheromone	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	100
defoliator sp	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
studies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	0	3	0	0	0	555	0	0	555	107	0	0	0	3	110

Forest	DCR							DPM						
Health Main	TSA	TFL19-WFP	TFL25-WFP	TFL45-IFP	TFL39-MB	TFL47-TFL	Total	TSA	TFL6-WFP	TFL45-IFP	TFL37-CFP	TFL39-MB	TFL47-TFL	Total
ground surv	0	0	0	0	0	0	0	0	0	0	0	0	0	0
aerial surv	0	0	0	0	8	3	11	8	0	0	0	0	1	9
fall and burn	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MSMA	0	0	0	0	0	0	0	0	0	0	0	0	0	0
pheromone	50	0	0	0	0	0	50	0	0	0	0	0	0	0
defoliator sp	0	0	0	0	0	0	0	0	0	0	0	0	0	0
studies	0	0	0	0	0	0	0	0	0	0	0	0	0	0
other	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	50	0	0	0	8	3	61	8	0	0	0	0	1	9

Forest	DMC				DQC					
Health Main	TSA	TFL25-WFP	TFL39-MB	Total	TSA	TFL25-WFP	TFL39-MB	TFL47-TFL	Total	Grand Total
ground surv	84	0	0	84	0	0	0	0	0	624
aerial surv	0	0	0	0	0	0	0	0	0	48
fall and burn	0	0	0	0	0	0	0	0	0	0
MSMA	0	0	0	0	0	0	0	0	0	0
pheromone	0	0	0	0	0	0	0	0	0	150
defoliator sp	0	0	0	0	0	0	0	0	0	0
studies	0	0	0	0	0	0	0	0	0	0
other	0	0	0	0	0	0	0	0	0	0
Total	84	0	0	84	0	0	0	0	0	822

Appendix2: Vancouver Forest Region Current Fire and Pest Opportunities in Hectares
2000/2001
1999/20/09

current	DCK			DSQ			DSC				DSI					
fire and pest	TSA	TFL26-Miss	Total	TSA	TFL38-IFP	Total	TSA	TFL10-IFP	TFL39-MB	Total	TSA	TFL25-WFP	TFL54-IFP	TFL44-MB	TFL46-TFL	Total
Surveys	26	0	26	0	0	0	100	0	0	100	0	0	0	0	8	8
site prep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
planting	200	0	200	0	0	0	0	0	0	0	0	0	0	0	8	8
brushing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
max density	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Studies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	226	0	226	0	0	0	100	0	0	100	0	0	0	0	18	18

current	DCR							DPM						
fire and pest	TSA	TFL19-WFP	TFL25-WFP	TFL45-IFP	TFL39-MB	TFL47-TFL	Total	TSA	TFL6-WFP	TFL45-IFP	TFL37-CFP	TFL39-MB	TFL47-TFL	Total
Surveys	0	0	0	0	0	1	1	0	0	0	0	0	2	2
site prep	0	0	0	0	0	0	0	0	0	0	0	0	0	0
planting	0	0	0	0	0	1	1	0	0	0	0	0	2	2
brushing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
max density	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Studies	0	0	0	0	0	0	0	0	0	0	0	0	0	0
other	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	2	2	0	0	0	0	0	4	4

current	DMC				DQC					
fire and pest	TSA	TFL25-WFP	TFL38-MB	Total	TSA	TFL25-WFP	TFL39-MB	TFL47-TFL	Total	Grand Total
Surveys	0	0	0	0	1000	0	0	0	1000	1137
site prep	0	0	0	0	0	0	0	0	0	0
planting	0	0	0	0	0	0	0	0	0	211
brushing	0	0	0	0	0	0	0	0	0	2
max density	0	0	0	0	0	0	0	0	0	0
Studies	0	0	0	0	0	0	0	0	0	0
other	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1000	0	0	0	1000	1350

Appendix 3. Vancouver Forest Region Backlog Activity Opportunities in dollars
2000/2001
1999/20/09

* priority - the overall activity priority is based on a weighting by opportunities, historical return on investment and other factors. Individual projects within an activity when reviewed may rank higher or lower.

Backlog	DCK				DSQ				DSC				
hectares	TSA	TFL26-Miss	Total	Priority*	TSA	TFL38-IFP	Total	Priority*	TSA	TFL10-IFP	TFL39-MB	Total	Priority*
Legal													
surveys	3500	0	3500	1	20000	0	20000	1	0	0	0	0	9
site prep	3000	0	3000	1	0	0	0	9	0	0	0	0	9
planting	6000	0	6000	1	24000	0	24000	1	0	0	0	0	9
brushing	39000	0	39000	1	37500	0	37500	1	0	0	0	0	9
seed	1800	0	1800	1	250	0	250	1	0	0	0	0	9
max density	0	0	0	9	0	0	0	9	0	0	0	0	9
pruning	0	0	0	9	0	0	0	9	0	0	0	0	9
Total	53300	0	53300		81750	0	81750		0	0	0	0	

Refor.													
surveys	4200	0	4200	2	18000	48125	66125	1,1,1	0	13000	11250	24250	1
site prep	27000	0	27000	2	17500	0	17500	1	0	0	0	0	9
site restore	0	0	0	9	0	0	0	9	0	0	414000	414000	1
planting	13000	0	13000	2	40000	40000	80000	1,2,2	0	0	35000	35000	1
brushing	0	0	0	9	62500	330000	392500	9	0	0	61750	61750	1
seed	3000	0	3000	2	400	0	400	1	0	0	0	0	9
Total	47200	0	47200		138400	418125	556525		0	13000	522000	535000	

0

impeded													
surveys	12750	0	12750	2	63000	0	63000	1	97500	0	0	97500	1
site prep	0	0	0	9	0	0	0	9	0	0	0	0	9
planting	0	0	0	9	0	0	0	9	42000	0	0	42000	1
brushing	77500	0	77500	2	125000	0	125000	1	187500	0	0	187500	1
seed	0	0	0	9	0	0	0	9	0	0	0	0	9
Total	90250	0	90250		188000	0	188000		327000	0	0	327000	

Backlog	DCK				DSQ				DSC				
Totals	TSA	TFL26-Miss	Total	Priority	TSA	TFL38-IFP	Total	Priority	TSA	TFL10-IFP	TFL39-MB	Total	Priority
Region													
surveys	20450	0	20450		101000	48125	149125		97500	13000	11250	121750	
site prep	30000	0	30000		17500	0	17500		0	0	0	0	
site restore	0	0	0		0	0	0		0	0	414000	414000	
planting	19000	0	19000		64000	40000	104000		42000	0	35000	77000	
brushing	116500	0	116500		225000	330000	555000		187500	0	61750	249250	
seed	4800	0	4800		650	0	650		0	0	0	0	
max density	0	0	0		0	0	0		0	0	0	0	
pruning	0	0	0		0	0	0		0	0	0	0	
studies	0	0	0		0	0	0		0	0	0	0	
Totals	190750	0	190750		408150	418125	826275		327000	13000	522000	862000	

Vancouver Forest Region Backlog Activity Opportunities in dollars
2000/2001
1999/20/09

* priority - the overall activity priority is based on a weighting by opportunities, historical return on investment and other factors. Individual projects within an activity when reviewed may rank higher or lower

Backlog	DSI							DCR							
hectares	TSA	TFL25-WFP	TFL54-IFP	TFL44-MB	TFL46-TFL	Total	Priority*	TSA	TFL19-WFP	TFL25-WFP	TFL45-IFP	TFL39-MB	TFL47-TFL	Total	Priority*
Legal															
surveys	0	0	0	0	0	0	9	0	25000	15252	0	75000	0	115252	1,2,1,1
site prep	0	0	0	0	0	0	9	0	0	114,520	0	0	0	114520	4
planting	0	0	0	0	0	0	9	0	3000	0	0	0	0	3000	3,
brushing	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
seed	0	0	0	0	0	0	9	0	500	0	0	0	0	500	3
max density	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
pruning	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
Total	0	0	0	0	0	0		0	28500	129772	0	75000	0	233272	
Refor.															
surveys	3300	0	4200	8045	8000	23545	1,1,2,2.2	0	0	4900	0	20000	8000	32900	1,2,2.2
site prep	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
site restore	0	0	0	0	0	0	9	0	0	0	0	75000	0	75000	1
planting	25000	0	90000	316000	0	431000	1,1,1,1	0	0	0	0	25000	0	25000	2
brushing	0	0	0	0	0	0	9	0	0	0	75000	0	0	75000	1
seed	0	0	0	0	450	450	3	0	0	0	0	0	700	700	3
Total	28300	0	94200	324045	8450	454995		0	0	4900	75000	120000	8700	208600	
impeded															
surveys	64000	0	15600	99755	32000	211355	2,n,2,2,2	32500	5000	3100	0	40000	32000	112600	1,1,1,1,.2,1
site prep	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
planting	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
brushing	300000	0	48000	660000	24000	1032000	2,n,2,2,2	200000	0	3600	0	110000	30000	343600	2,1,1,2,2
seed	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
Total	364000	0	63600	759755	56000	1243355		232500	5000	6700	0	150000	62000	456200	

Backlog	DSI							DCR							
Totals	TSA	TFL25-WFP	TFL54-IFP	TFL44-MB	TFL46-TFL	Total	Priority	TSA	TFL19-WFP	TFL25-WFP	TFL45-IFP	TFL39-MB	TFL47-TFL	Total	Priority
Region															
surveys	67300	0	19800	107800	40000	234900		32500	30000	23252	0	135000	40000	260752	
site prep	0	0	0	0	0	0		0	0	114520	0	0	0	114520	
site restore	0	0	0	0	0	0		0	0	0	0	75000	0	75000	
planting	25000	0	90000	316000	0	431000		0	3000	0	0	25000	0	28000	
brushing	300000	0	48000	660000	24000	1032000		200000	0	3600	75000	110000	30000	418600	
seed	0	0	0	0	450	450		0	500	0	0	0	700	1200	
max density	0	0	0	0	0	0		0	0	0	0	0	0	0	
pruning	0	0	0	0	0	0		0	0	0	0	0	0	0	
studies	0	0	0	0	6000	6000		0	0	0	0	0	6000	6000	
Totals	392300	0	157800	1083800	70450	1704350		232500	33500	141372	75000	345000	76700	904072	

Vancouver Forest Region Backlog Activity Opportunities in dollars
2000/2001
1999/20/09

* priority - the overall activity priority is based on a weighting by opportunities, historical return on investment and other factors. Individual projects within an activity when reviewed may rank higher or lower

Backlog	DPM								DMC				
hectares	TSA	TFL6-WFP	TFL45-IFP	TFL37-CFP	TFL39-MB	TFL47-TFL	Total	Priority*	TSA	TFL25-WFP	TFL38-MB	Total	Priority*
Legal													
surveys	0	0	0	0	0	0	0	9	25024	0	0	25024	1
site prep	0	0	0	0	0	0	0	9	0	0	0	0	9
planting	0	0	0	0	0	0	0	9	0	0	0	0	9
brushing	0	0	0	0	0	0	0	9	0	0	0	0	9
seed	0	0	0	0	0	0	0	9	0	0	0	0	9
max density	0	0	0	0	0	0	0	9	0	0	0	0	9
pruning	0	0	0	0	0	0	0	9	0	0	0	0	9
Total	0	0	0	0	0	0	0		25024	0	0	25024	
Refor.													
surveys	47500	0	0	0	40000	4000	91500	2,n,2,**2**	12950	12492	0	25442	**1**
site prep	100000	0	0	0	0	0	100000	**3**	0	0	0	0	9
site restore	0	0	0	0	0	0	0	9	0	0	0	0	9
planting	200000	0	0	0	5000	0	205000	2,n,2,**2**	0	0	0	0	9
brushing	0	0	0	0	90000	0	90000	2	280000		0	280000	**1**
seed	0	0	0	0	0	350	350	**3**	0	0	0	0	9
Total	347500	0	0	0	135000	4350	486850		292950	12492	0	305442	
impeded													
surveys	25000	46512	0	11000	0	36000	118512	2,1,3,2,**2**	0	0	0	0	9
site prep	0	0	0	0	0	0	0	9	0	0	0	0	9
planting	0	9900	0	11000	0	0	20900	1,1,**1**	0	0	0	0	9
brushing	400000	326400	0	11000	0	15000	752400	1,1,2,n,2,**1**	143260	26000	0	169260	**1**
seed	0	0	0	0	0	0	0	9	0	0	0	0	9
Total	425000	382812	0	33000	0	51000	891812		143260	26000	0	169260	

Backlog	DPM								DMC				
Totals	TSA	TFL6-WFP	TFL45-IFP	TFL37-CFP	TFL39-MB	TFL47-TFL	Total	Priority	TSA	TFL25-WFP	TFL38-MB	Total	Priority
Region													
surveys	72500	46512	0	11000	40000	40000	210012		37974	12492	0	50466	
site prep	100000	0	0	0	0	0	100000		0	0	0	0	
site restore	0	0	0	0	0	0	0		0	0	0	0	
planting	200000	9900	0	11000	5000	0	225900		0	0	0	0	
brushing	400000	326400	0	11000	90000	15000	842400		423260	26000	0	449260	
seed	0	0	0	0	0	350	350		0	0	0	0	
max density	0	0	0	0	0	0	0		0	0	0	0	
pruning	0	0	0	0	0	0	0		0	0	0	0	
studies	0	0	0	0	0	4000	4000		0	0	0	0	
Totals	772500	382812	0	33000	135000	59350	1382662		461234	38492	0	499726	

Vancouver Forest Region Backlog Activity Opportunities in dollars
2000/2001
20 September, 1999

* priority - the overall activity priority is based on a weighting by opportunities, historical return on investment and other factors. Individual projects within an activity when reviewed may rank higher or lower

Backlog	DOC						$
hectares	TSA	TFL25-WFP	TFL39-MB	TFL47-TFL	Total	Priority*	Grand Total
Legal							
surveys	57500	0	30000	26400	113900	1,9,1,1-**1**	277676
site prep	0	0	0	0	0	9	117520
planting	0	0	0	0	0	**2**	33000
brushing	120000	0	0	0	120000	**2**	196500
seed	0	0	0	0	0	9	2550
max density	0	0	0	0	0	9	0
pruning	0	0	0	0	0	9	0
Total	177500	0	30000	26400	233900		627246

Re							
surveys	7500	0	120000	6600	134100	1,9,2,1,**1**	402062
site prep	0	0	0	0	0	9	144500
site restore	22500	0	5000	5000	32500	2,9,3,3,**3**	521500
planting	0	0	20000	10000	30000	9,9,1,1,**2**	819000
brushing	0	0	30000	15000	45000	9,9,2,2,**2**	944250
seed	0	0	70	0	70	**2**	4970
Total	30000	0	175070	36600	241670		2836282

impeded							
surveys	47500	15000	40000	1320	103820	1,2,2,1,**1**	719537
site prep	0	0	0	0	0	9	0
planting	90000	0	0	0	90000	2	152900
brushing	180000	75000	600000	15000	870000	2,2,2,1,**2**	3557260
seed	0	0	0	0	0	9	0
Total	317500	90000	640000	16320	1063820		4429697

Backlog	DOC						
Totals	TSA	TFL25-WFP	TFL39-MB	TFL47-TFL	Total	Priority	Grand Total
Region							
surveys	112500	15000	190000	34320	351820		1399275
site prep	0	0	0	0	0		262020
site restore	22500	0	5000	5000	32500		521500
planting	90000	0	20000	10000	120000		1004900
brushing	300000	75000	630000	30000	1035000		4698010
seed	0	0	70	0	70		7520
max density	0	0	0	0	0		0
pruning	0	0	0	0	0		0
studies	0	0	500	40000	40500		56500
Totals	525000	90000	845570	119320	1579890		7949725

Appendix 3: Vancouver Forest Region Enhanced Forestry Opportunities in dollars
2000/2001
1999/20/09
* priority - the overall activity priority is based on a weighting by opportunities, historical return on investment and other factors. Individual projects when reviewed may rank higher or lower

Enhanced	DCK				DSQ				DSC				
Activity	TSA	TFL26-Miss	Total	Priority*	TSA	TFL38-IFP	Total	Priority*	TSA	TFL10-IFP	TFL39-MB	Total	Priority*
Surveys	175,000	4,800	179,800	1,2,**1**	150000	48750	198750	2,1,**2**	150000	0	60000	210000	2.n.**2**
Spacing	1,400,000	78,000	1,478,000	2,2,**2**	1560000	270000	1830000	2,2,**2**	2040000	0	150000	2190000	2.n.**2**
Pruning	700,000	33,600	733,600	2,3,**2**	275000	240000	515000	3,3,**3**	2400000	0	53600	2453600	2,n,**3**
Fertilizing	450,000	60,000	510,000	1,2,**1**	350000	25000	375000	1,2,**1**	140000	0	0	140000	**4**
Studies	0	0	0	9,9	25000	0	25000	2,9,**2**	0	0	0	0	9
Other	0	0	0	9,9	0	0	0	9	0	0	80000	80000	**5**
Total	2,725,000	176,400	2,901,400		2360000	583750	2943750		4730000	0	343600	5073600	

Enhanced	DSI						
Activity	TSA	TFL25-WFP	TFL54-IFP	TFL44-MB	TFL46-TFL	Total	Priority*
Surveys	78000	6250	4000	110000	49500	247750	2,1,3,2,2,**2**
Spacing	424900	0	104000	299000	8000	835900	1,3,3,3,**3**
Pruning	375000	75000	0	0	0	450000	3,1,**3**
Fertilizing	250000	0	0	120000	525000	895000	2,2,2,**2**
Studies	0	0	0	0	7500	7500	**2**
Other	0	0	0	345000	0	345000	**2**
Total	1127900	81250	108000	874000	590000	2781150	

Enhanced	DCR							
Activity	TSA	TFL19-WFP	TFL25-WFP	TFL45-IFP	TFL39-MB	TFL47-TFL	Total	Priority*
Surveys	227000	45000	25000	0	48000	25000	370000	2,1,1,1,2,**2**
Spacing	1800000	495000	51000	0	200000	132000	2678000	3,1,3,2,3,**3**
Pruning	750000	485000	51000	300000	149000	0	1735000	4,1,3,1,1,**3**
Fertilizing	450000	315000	297000	30000	300000	197000	1589000	1,1,1,1,1,2,**1**
Studies	10000	90000	0	0	25000	6000	131000	1,2,**2**
Other	0	0	0	0	0	0	0	
Total	3237000	1430000	424000	330000	722000	360000	6503000	

Enhanced	DPM							
Activity	TSA	TFL6-WFP	TFL45-IFP	TFL37-CFP	TFL39-MB	TFL47-TFL	Total	Priority*
Surveys	55000	65000	0	1250	13200	12000	146450	2,1,2,2,**2**
Spacing	175000	277950	0	38000	72000	162000	724950	4,3,2,3,**3**
Pruning	195000	295800	0	0	0	0	490800	5,3,**4**
Fertilizing	300000	546300	0	376250	200000	0	1422550	2,1,1,n,**1**
Studies	0	0	0	0	0	8000	8000	**3**
Other	0	40000	0	0	60000	70000	170000	3,n,3,**3**
Total	725000	1225050	0	415500	345200	252000	2962750	

Enhanced	DMC				
Activity	TSA	TFL25-WFP	TFL38-MB	Total	Priority*
Surveys	32750	0	3500	36250	2,n,**2**
Spacing	1182600	283800	47400	1513800	2,n,**2**
Pruning	562275	375750	0	938025	3,2,**3**
Fertilizing	0	0	0	0	**7**
Studies	0	0	0	0	
Other	0	0	96000	96000	3
Total	1777625	659550	146900	2584075	

Enhanced	DQC						$
Activity	TSA	TFL25-WFP	TFL39-MB	TFL47-TFL	Total	Priority*	Grand Total
Surveys	39000	27500	12000	13200	91700	1,2,3,2,**1**	1,480,700
Spacing	580000	450000	400000	20000	1450000	2,2,3,3,**2**	12,700,650
Pruning	280000	175000	75000	6000	536000	5,3,5,5,**4**	7,852,025
Fertilizing	37500	688750	75000	30000	831250	3,2,3,2,**2**	5,762,800
Studies	0	0	80000	20000	100000	9,9,3,2,**3**	271,500
Other	0	0	3000	1000	4000	9,9,3,3,**3**	695,000
Total	936500	1341250	645000	90200	3012950		28,762,675

Appendix 3: Vancouver Forest Region Forest Health Enhancement Opportunities in dollars
2000/2001
1999/20/09

* priority - the overall activity priority is based on a weighting by opprtunities, historical return on investment, and other factors. Individual projects when reviewed may rank higher or lower

Forest	DCK				DSQ				DSC				
Health Enhan	TSA	TFL26-Miss	Total	Priority*	TSA	TFL38-IFP	Total	Priority*	TSA	TFL10-IFP	TFL39-MB	Total	Priority*
site rehab	0	0	0	9	0	0	0	9	0	0	0	0	9
spacing	0	0	0	9	0	0	0	9	43200	0	0	43200	1
pruning	0	0	0	9	0	0	0	9	10000	0	0	10000	2
studies	0	0	0	9	0	0	0	9	0	0	0	0	9
other	0	0	0	9	0	0	0	9	93000	0	0	93000	1
Total	0	0	0		0	0	0		146200	0	0	146200	

Forest	DSI							DCR							
Health Enhan	TSA	TFL25-WFP	TFL54-IFP	TFL44-MB	TFL46-TFL	Total	Priority*	TSA	TFL19-WFP	TFL25-WFP	TFL45-IFP	TFL39-MB	TFL47-TFL	Total	Priority*
site rehab	0	0	0	0	10000	10000	2	0	0	0	0	0	0	0	9
Spacing	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
Pruning	61600	0	0	0	0	61600	1	0	0	0	0	0	0	0	9
Studies	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
Other	0	0	0	0	0	0	9	0	20000	0	0	0	0	20000	3
Total	61600	0	0	0	10000	71600		0	20000	0	0	0	0	20000	

Forest	DPM								DMC				
Health Enhan	TSA	TFL6-WFP	TFL45-IFP	TFL37-CFP	TFL39-MB	TFL47-TFL	Total	Priority*	TSA	TFL25-WFP	TFL39-MB	Total	Priority*
site rehab	0	0	0	0	0	0	0	9	0	0	0	0	9
Spacing	0	0	0	0	0	0	0	9	0	0	0	0	9
Pruning	0	0	0	0	0	0	0	9	0	0	0	0	9
Studies	30000	0	0	0	0	0	30000	3	20000	0	0	20000	3
Other	0	0	0	0	0	0	0	9	0	0	0	0	9
Total	30000	0	0	0	0	0	30000		20000	0	0	20000	

Forest	DQC						$
Health Enhan	TSA	TFL25-WFP	TFL39-MB	TFL47-TFL	Total	Priority*	Grand Total
site rehab	0	0	6000	19800	25800	2,2,2	35,800
Spacing	0	0	200000	60000	260000	2,2,2	303,200
Pruning	0	0	0	0	0		71,600
Studies	0	0	2000	2000	4000	3,3,3	54,000
Other	0	0	0	0	0		113,000
Total	0	0	208000	81800	289800		577,600

Appendix 3. Vancouver Forest Region Forest Health Maintenance Opportunities in dollars
2000/2001
1999/20/09

* priority - the overall activity priority is based on a weighting by opportunities, historical return on investment, and other factors. Individual projects when reviewed may rank higher or lower

Forest	DCK				DSQ				DSC				
Health Main	TSA	TFL26-Miss	Total	Priority*	TSA	TFL38-IFP	Total	Priority*	TSA	TFL10-IFP	TFL39-MB	Total	Priority*
ground surv	0	0	0	9	0	0	0	9	10800	0	0	10800	1
aerial surv	2,000	0	2,000	2	0	0	0	9	1050	0	0	1050	1
fall and burn	0	0	0	9	0	0	0	9	0	0	0	0	9
MSMA	0	0	0	9	0	0	0	9	0	0	0	0	9
pheromone	0	0	0	9	0	0	0	9	0	0	0	0	9
defoliator sp	0	0	0	9	0	0	0	9	0	0	0	0	9
studies	0	0	0	9	0	0	0	9	0	0	0	0	9
other	0	0	0	9	0	0	0	9	0	0	0	0	9
Total	2,000	0	2,000		0	0	0		11850	0	0	11850	

Forest	DSI							DCR							
Health Main	TSA	TFL25-WFP	TFL54-IFP	TFL44-MB	TFL46-TFL	Total	Priority*	TSA	TFL19-WFP	TFL25-WFP	TFL45-IFP	TFL39-MB	TFL47-TFL	Total	Priority*
ground surv	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
aerial surv	7000	0	0	0	3000	10000	1,1,1	0	0	0	0	10000	3000	13000	1,1,1
fall and burn	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
MSMA	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
pheromone	3000	0	0	0	0	3000	1	2000	0	0	0	0	0	2000	2
defoliator sp	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
studies	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
other	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
Total	10000	0	0	0	3000	13000		2000	0	0	0	10000	3000	15000	

Forest	DPM								DMC				
Health Main	TSA	TFL6-WFP	TFL45-IFP	TFL37-CFP	TFL39-MB	TFL47-TFL	Total	Priority*	TSA	TFL25-WFP	TFL38-MB	Total	Priority*
ground surv	0	0	0	0	0	0	0	9	2520	0	0	2520	4
aerial surv	8000	0	0	0	0	1000	9000	1	0	0	0	0	9
fall and burn	0	0	0	0	0	0	0	9	0	0	0	0	9
MSMA	0	0	0	0	0	0	0	9	0	0	0	0	9
pheromone	0	0	0	0	0	0	0	9	0	0	0	0	9
defoliator sp	0	0	0	0	0	0	0	9	0	0	0	0	9
studies	0	0	0	0	0	0	0	9	0	0	0	0	9
other	0	0	0	0	0	0	0	9	0	0	0	0	9
Total	8000	0	0	0	0	1000	9000		2520	0	0	2520	

Forest	DQC					$
Health Enhan	TSA	TFL25-WFP	TFL39-MB	TFL47-TFL	Total	Priority*	Grand Total
ground surv	0	0	0	0	0	9	13,320
aerial surv	0	0	0	0	0	9	35,050
fall and burn	0	0	0	0	0	9	0
MSMA	0	0	0	0	0	9	0
pheromone	0	0	0	0	0	9	5,000
defoliator sp	0	0	0	0	0	9	0
studies	0	0	0	0	0	9	0
other	0	0	0	0	0	9	0
Total	0	0	0	0	0		53,370

Appendix 3: Vancouver Forest Region Current Fire and Pest Opportunities in dollars
2000/2001
1999/20/09

* priority - the overall activity priority is based on a weighting by opportunities, historical return on investment, and other factors. Individual projects when reviewed may rank higher or lower

Current	DCK				DSQ				DSC				
fire and pest	TSA	TFL26-Miss	Total	Priority*	TSA	TFL38-IFP	Total	Priority*	TSA	TFL10-IFP	TFL39-MB	Total	Priority*
Surveys	1,000	0	1,000	1	0	0	0	9	7500	0	0	7500	1
site prep	0	0	0	9	0	0	0	9	0	0	0	0	9
planting	200,000	0	200,000	1	0	0	0	9	0	0	0	0	9
brushing	0	0	0	9	0	0	0	9	0	0	0	0	9
max density	0	0	0	9	0	0	0	9	0	0	0	0	9
studies	0	0	0	9	0	0	0	9	0	0	0	0	9
Other	0	0	0	9	0	0	0	9	0	0	0	0	9
Total	201,000	0	201,000		0	0	0		7500	0	0	7500	

Current	DSI							DCR							
fire and pest	TSA	TFL25-WFP	TFL54-IFP	TFL44-MB	TFL46-TFL	Total	Priority*	TSA	TFL19-WFP	TFL25-WFP	TFL45-IFP	TFL39-MB	TFL47-TFL	Total	Priority*
Surveys	0	0	0	0	1200	1200	1	0	0	0	0	0	150	150	1
site prep	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
planting	0	0	0	0	0	12000	1	0	0	0	0	0	1500	1500	1
brushing	0	0	0	0	0	2400	1	0	0	0	0	0	0	0	9
max density	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
studies	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
Other	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
Total	0	0	0	0	1200	15600		0	0	0	0	0	1650	1650	

Current	DPM								DMC				
fire and pest	TSA	TFL6-WFP	TFL45-IFP	TFL37-CFP	TFL39-MB	TFL47-TFL	Total	Priority*	TSA	TFL25-WFP	TFL38-MB	Total	Priority*
Surveys	0	0	0	0	0	300	300	1	0	0	0	0	9
site prep	0	0	0	0	0	0	0	9	0	0	0	0	9
planting	0	0	0	0	0	3000	3000	1	0	0	0	0	9
brushing	0	0	0	0	0	0	0	9	0	0	0	0	9
max density	0	0	0	0	0	0	0	9	0	0	0	0	9
studies	0	0	0	0	0	0	0	9	0	0	0	0	9
Other	0	0	0	0	0	0	0	9	0	0	0	0	9
Total	0	0	0	0	0	3300	3300		0	0	0	0	

Enhanced	DQC						$
Activity	TSA	TFL25-WFP	TFL39-MB	TFL47-TFL	Total	Priority*	Grand Total
Surveys	50000	0	0	0	50000	1	60,150
site prep	0	0	0	0	0	9	0
planting	0	0	0	0	0	9	216,500
brushing	0	0	0	0	0	9	2,400
max density	0	0	0	0	0	9	0
studies	0	0	0	0	0	9	0
Other	0	0	0	0	0	9	0
Total	50000	0	0	0	50000		279,050

Appendix 4: Vancouver Forest Region
Instructions
2000 -2001

Technical instructions are provided in the Guidelines for the Sustainable Harvest Objective.

1) **Titles**
Replace the following words with the name and date, they affect all tables:
Appendix 4: Vancouver Forest Region
2000 -2001
Check the changed words above.

2) **Management Units across districts**
Where a management unit is in more than one district,
tables should be prepared by portion of management unit in a district, and
a cumulative table provided for the overall management unit.

Tables A to F
3) Enter data in unshaded cells of spreadsheets for Tables A to F.
To ensure an activity with no input is given low priority, give it a priority of "9".
These sheets are protected to provide a consistent format.
(To turn protection off, go tools, protection, protection off, no password was used)

Summary Table for Management Unit
4) The spreadsheets are summarized on the spreadsheet "Summary."
Do not make any entries on the "Summary" spreadsheet.
On Summary, to run a macro to sort activities by priority, press Ctl-e.

Summary Table by Regional Priority
5) Regions may further summarize the summary tables for the region.
Copy rows 20 to 72 (including the MU name in column A) into a regional spreadsheet.
Repeat the copy for all management units in the region.
Rate the management unit, and activities regionally.
Enter the rating in the regional column.
Sort the cumulative table by regional priority.

Appendix 4: Vancouver Forest Region
Table A: Backlog Activities
2000 -2001

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
Legal Obligations	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	6894	4765	3193	2752	2246	$277,676	$40	0
2 Site preparation	143	44	35	35	35	117,520	822	0
3 Planting	41	91	85	85	83	33,000	805	0
4 Brushing	168	78	69	41	41	196,500	1,170	0
5 Seed purchase	41	42	35	35	35	2,550	62	0
6 Max. density spacing	0	0	200	200	200	0	#DIV/0!	0
7 Pruning	0	0	0	0	0	0	#DIV/0!	0
Totals	7287	5020	3617	3148	2640	627246	$86	

Backlog Reforestation

1 Planning/surveys/prescriptions	10620	9215	8765	8125	7775	$402,062	$38	0
2 Site preparation	152	95	40	25	25	144,500	951	0
3 Site restoration road/land. rehab	303	277	262	162	12	521,500	1,721	0
4 Planting	668	656	440	310	305	819,000	1,226	0
5 Brushing	670	640	640	545	450	944,250	1,409	0
6 Seed purchase	93	186	160	160	160	4,970	53	0
Totals	12506	11069	10307	9327	8727	$2,836,282	$227	

Impeded areas

1 Planning/surveys/prescriptions	16774	12955	12193	10885	9335	$719,537	$43	0
2 Site preparation	0	0	0	0	0	0	#DIV/0!	0
3 Planting	101	35	0	0	0	152,900	1,514	0
4 Brushing	3302	2662	2167	1800	1800	3,557,260	1,077	0
5 Seed purchase	0	0	0	0	0	0	#DIV/0!	0
Totals	20177	15652	14360	12685	11135	$4,429,697	$220	

Backlog Activities - Management Unit Total

1 Planning/surveys/prescriptions	34288	26935	24151	21762	19356	$1,399,275	$41	
2 Site preparation	295	139	75	60	60	262,020	888	
3 Site restoration road/land. rehab	303	277	262	162	12	521,500	1,721	
4 Planting	810	782	525	395	388	1,004,900	1,241	
5 Brushing	4140	3380	2876	2386	2291	4,698,010	1,135	
6 Seed purchase	134	228	195	195	195	7,520	56	
7 Max. density spacing	0	0	200	200	200	0	#DIV/0!	
8 Pruning	0	0	0	0	0	0	#DIV/0!	
9 Studies	25	0	0	0	0	56,500	2,260	
Totals	39995	31741	28284	25160	22502	$7,949,725	$199	

Appendix 4: Vancouver Forest Region
Table B: Stand Tending Activities
2000 -2001

	Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	29027	26454	25300	25245	24445	$1,480,700	$51	0
2	Spacing	7249	7070	7075	7020	7105	12,700,650	1,752	0
3	Pruning	3514	3147	3241	3294	3067	7,852,025	2,234	0
4	Fertilizing	16332	14035	13510	13270	13745	5,762,800	353	0
5	Studies	258	159	158	158	157	271,500	1,052	0
6	Other	355	320	350	350	350	695,000	1,958	0
	Totals	56735	51185	49634	49337	48869	28762675	$507	

Appendix 4: Vancouver Forest Region
Table C: Forest Health Enhancement Activities
2000 -2001

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Site rehab	235	225	225	5	5	$35,800	$152	0
2 Spacing	184	124	124	54	54	303,200	1,648	0
3 Pruning	125	205	205	165	165	71,600	573	0
4 Studies	51	50	50	50	50	54,000	1,059	0
5 Others	206	206	186	186	186	113,000	549	0
Totals	801	810	790	460	460	$577,600	$721	

Appendix 4: Vancouver Forest Region
Table D: Forest Health Maintenance Activities
2000 -2001

Activities	Units	Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Ground Surveys	ha	624	540	540	540	540	$13,320	$21	0
2 Aerial Surveys	hours of flying time	48	48	48	48	48	35,050	730	0
3 Fall and burn treatment	trees	0	0	0	0	0	0	#DIV/0!	0
4 MSMA treatment	trees	0	0	0	0	0	0	#DIV/0!	0
5 Pheromone baiting	trees	150	150	150	150	150	5,000	33	0
6 Defoliator spraying	ha	0	0	0	0	0	0	#DIV/0!	0
7 Studies	number	0	0	0	0	0	0	#DIV/0!	0
8 Other		0	0	0	0	0	0	#DIV/0!	0
Totals		822	738	738	738	738	$53,370	$65	

Appendix 4: Vancouver Forest Region
Table E: Current Fire and Pest Activities
2000 -2001

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	1137	1061	1311	137	311	$60,150	$53	0
2 Site preparation	0	100	50	100	100	0	#DIV/0!	0
3 Planting	211	311	161	111	111	216,500	1,026	0
4 Brushing	2	2	102	102	2	2,400	1,200	0
5 Max. density spacing	0	0	0	0	0	0	#DIV/0!	0
6 Studies	0	0	0	0	0	0	#DIV/0!	0
7 Other	0	0	0	0	0	0	#DIV/0!	0
Totals	$1,350	$1,474	$1,624	$450	$524	$279,050	$207	

Appendix 4: Vancouver Forest Region
Table F: Habitat Supply Activities
2000 -2001

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	1	0	0	0	0	$0	$0	0
2 Site preparation	0	0	0	0	0	0	0	0
3 Planting	0	0	0	0	0	0	0	0
4 Brushing	0	0	0	0	0	0	0	0
5 Spacing	0	0	0	0	0	0	0	0
6 Pruning	0	0	0	0	0	0	0	0
7 Studies	0	0	0	0	0	0	0	0
8 Others	0	0	0	0	0	0	0	0
Totals	1	0	0	0	0	$0	$0	

See MELP Tables for summaries

Appendix 4: Vancouver Forest Region
Summary Table
2000 -2001

Table Totals	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	39,995	31,741	28,284	25,160	22,502	7,949,725	199	
Table B: Stand Tending Activities	56,735	51,185	49,634	49,337	48,869	28,762,675	507	
Table C: Forest Health Enhancement Activities	801	810	790	460	460	577,600	721	
Table D: Forest Health Maintenance Activities	822	738	738	738	738	53,370	65	
Table E: Current Fire and Pest Activities	1,350	1,474	1,624	450	524	279,050	207	
Table F: Habitat Supply Activities	1	0	0	0	0	0	0	
Totals of all tables	99,704	85,948	81,070	76,145	73,093	37,622,420	377	

Activities Sorted by Priority (Ctl-e)

Table and category			Activity		Five-Year Plan Goals (ha)					Annual Plan 2000/01		
					2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority
A	Backlog	Legal	1	Planning/surveys/presc.	6,894	4,765	3,193	2,752	2,246	277,676	40	0
A	Backlog	Legal	2	Site preparation	143	44	35	35	35	117,520	822	0
A	Backlog	Legal	3	Planting	41	91	85	85	83	33,000	805	0
A	Backlog	Legal	4	Brushing	168	78	69	41	41	196,500	1,170	0
A	Backlog	Legal	5	Seed Purchase	41	42	35	35	35	2,550	62	0
A	Backlog	Legal	6	Max. density spacing	0	0	200	200	200	0	#DIV/0!	0
A	Backlog	Legal	7	Pruning	0	0	0	0	0	0	#DIV/0!	0
A	Backlog	Backlog	1	Planning/surveys/presc.	10,620	9,215	8,765	8,125	7,775	402,062	38	0
A	Backlog	Backlog	2	Site preparation	152	95	40	25	25	144,500	951	0
A	Backlog	Backlog	3	Site Restoration Road/land.	303	277	262	162	12	521,500	1,721	0
A	Backlog	Backlog	4	Planting	668	656	440	310	305	819,000	1,226	0
A	Backlog	Backlog	5	Brushing	670	640	640	545	450	944,250	1,409	0
A	Backlog	Backlog	6	Seed Purchase	93	186	160	160	160	4,970	53	0
A	Backlog	Impeded	1	Planning/surveys/presc.	16,774	12,955	12,193	10,885	9,335	719,537	43	0

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
A	Backlog Impeded	2	Site preparation	0	0	0	0	0	0	#DIV/0!	0
A	Backlog Impeded	3	Planting	101	35	0	0	0	152,900	1,514	0
A	Backlog Impeded	4	Brushing	3,302	2,662	2,167	1,800	1,800	3,557,260	1,077	0
A	Backlog Impeded	5	Seed Purchase	0	0	0	0	0	0	#DIV/0!	0
A	Backlog Total	7	Studies	25	0	0	0	0	56,500	2,260	0
B	Stand Tending	1	Planning/surveys/presc.	29,027	26,454	25,300	25,245	24,445	1,480,700	51	0
B	Stand Tending	2	Spacing	7,249	7,070	7,075	7,020	7,105	12,700,650	1,752	0
B	Stand Tending	3	Pruning	3,514	3,147	3,241	3,294	3,067	7,852,025	2,234	0
B	Stand Tending	4	Fertilizing	16,332	14,035	13,510	13,270	13,745	5,762,800	353	0
B	Stand Tending	5	Studies	258	159	158	158	157	271,500	1,052	0
B	Stand Tending	6	Other	355	320	350	350	350	695,000	1,958	0
C	F. H. Enhancement	1	Site rehab	235	225	225	5	5	35,800	152	0
C	F. H. Enhancement	2	Spacing	184	124	124	54	54	303,200	1,648	0
C	F. H. Enhancement	3	Pruning	125	205	205	165	165	71,600	573	0
C	F. H. Enhancement	4	Studies	51	50	50	50	50	54,000	1,059	0
C	F. H. Enhancement	5	Others	206	206	186	186	186	113,000	549	0
D	F. H. Maintenance	1	Ground Surveys (ha)	624	540	540	540	540	13,320	21	0
D	F. H. Maintenance	2	Aerial Surveys (hours flying)	48	48	48	48	48	35,050	730	0
D	F. H. Maintenance	3	Fall & burn treatment (trees)	0	0	0	0	0	0	#DIV/0!	0
D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	#DIV/0!	0
D	F. H. Maintenance	5	Pheromone baiting (trees)	150	150	150	150	150	5,000	33	0
D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	#DIV/0!	0
D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	#DIV/0!	0
D	F. H. Maintenance	8	Other	0	0	0	0	0	0	#DIV/0!	0
E	Current Fire/Pest	1	Planning/surveys/presc.	1,137	1,061	1,311	137	311	60,150	53	0
E	Current Fire/Pest	2	Site preparation	0	100	50	100	100	0	#DIV/0!	0
E	Current Fire/Pest	3	Planting	211	311	161	111	111	216,500	1,026	0
E	Current Fire/Pest	4	Brushing	2	2	102	102	2	2,400	1,200	0
E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	#DIV/0!	0
E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	#DIV/0!	0
E	Current Fire/Pest	7	Other	0	0	0	0	0	0	#DIV/0!	0
F	Habitat Supply	1	Planning/surveys/presc.	1	0	0	0	0	0	0	0
F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	0
F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	0
F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	0

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
F	Habitat Supply	5	Spacing	0	0	0	0	0	0	0	0
F	Habitat Supply	6	Pruning	0	0	0	0	0	0	0	0
F	Habitat Supply	7	Studies	0	0	0	0	0	0	0	0
F	Habitat Supply	8	Others	0	0	0	0	0	0	0	0
										Check totals:	
Totals				99,704	85,948	81,070	76,145	73,093	37,622,420	#DIV/0!	0

Appendix 5: Chilliwack Forest District
Table A: Backlog Activities
August 18 1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
Legal Obligations	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	118	24	0	65	37	$3,500	$30	1
2 Site preparation	3	9	0	0	0	3,000	1,000	1
3 Planting	6	6	0	0	0	6,000	1,000	1
4 Brushing	78	28	19	11	11	39,000	500	1
5 Seed purchase	6	7	0	0	0	1,800	300	1
6 Max. density spacing	0	0	0	0	0	0	0	9
7 Pruning	0	0	0	0	0	0	0	9
Totals	211	74	19	76	48	53300	$253	

Backlog Reforestation

1 Planning/surveys/prescriptions	140	50	20	0	0	$4,200	$30	2
2 Site preparation	27	0	0	0	0	27,000	1,000	2
3 Site restoration road/land. rehab	0	0	0	0	0	0	0	9
4 Planting	13	11	0	0	0	13,000	1,000	2
5 Brushing	0	20	20	20	0	0	0	9
6 Seed purchase	13	11	0	0	0	3,000	231	2
Totals	193	92	40	20	0	$47,200	$245	

Impeded areas

1 Planning/surveys/prescriptions	425	40	128	0	0	$12,750	$30	2
2 Site preparation	0	0	0	0	0	0	0	9
3 Planting	0	0	0	0	0	0	0	9
4 Brushing	155	20	11	0	0	77,500	500	2
5 Seed purchase	0	0	0	0	0	0	0	0
Totals	580	60	139	0	0	$90,250	$156	

Backlog Activities - Management Unit Total

1 Planning/surveys/prescriptions	683	114	148	65	37	$20,450	$30	
2 Site preparation	30	9	0	0	0	30,000	1,000	
3 Site restoration road/land. rehab	0	0	0	0	0	0	0	
4 Planting	19	17	0	0	0	19,000	1,000	
5 Brushing	233	68	50	31	11	116,500	500	
6 Seed purchase	19	18	0	0	0	4,800	253	
7 Max. density spacing	0	0	0	0	0	0	0	
8 Pruning	0	0	0	0	0	0	0	
9 Studies	0	0	0	0	0	0	0	0
Totals	984	226	198	96	48	$190,750	$194	

Appendix 5: Chilliwack Forest District
Table B: Stand Tending Activities
August 18 1999

	Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	3580	3580	3580	3580	3580	$179,000	$50	1
2	Spacing	1060	1050	1050	1050	1050	1,478,000	1,394	2
3	Pruning	524	530	530	530	530	733,600	1,400	2
4	Fertilizing	1700	2000	2200	2000	2200	510,000	300	1
5	Studies	0	0	0	0	0	0	0	9
6	Other	0	20	50	50	50	0	0	9
	Totals	6864	7180	7410	7210	7410	2900600	$423	

Appendix 5: Chilliwack Forest District
Table C: Forest Health Enhancement Activities
August 18 1999

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Site rehab	0	0	0	0	0	$0	$0	9
2 Spacing	0	0	0	0	0	0	0	9
3 Pruning	0	0	0	0	0	0	0	9
4 Studies	0	0	0	0	0	0	0	9
5 Others	0	0	0	0	0	0	0	9
Totals	0	0	0	0	0	$0	$0	

Appendix 5: Chilliwack Forest District
Table D: Forest Health Maintenance Activities
August 18 1999

	Activities	Units	Five-year Plan Goals (ha)					Annual Plan 2000/01		
			2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Ground Surveys	ha	0	0	0	0	0	$0	$0	0
2	Aerial Surveys	hours of flying time	3	3	3	3	3	2,000	667	2
3	Fall and burn treatment	trees	0	0	0	0	0	0	0	0
4	MSMA treatment	trees	0	0	0	0	0	0	0	0
5	Pheromone baiting	trees	0	0	0	0	0	0	0	0
6	Defoliator spraying	ha	0	0	0	0	0	0	0	0
7	Studies	number	0	0	0	0	0	0	0	0
8	Other		0	0	0	0	0	0	0	0
	Totals		3	3	3	3	3	$2,000	$665	

Appendix 5: Chilliwack Forest District
Table E: Current Fire and Pest Activities
August 18 1999

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	26	0	200	26	200	$1	$0	1
2 Site preparation	0	0	0	0	0	0	0	9
3 Planting	200	0	0	0	0	200	1	1
4 Brushing	0	0	100	0	0	0	0	9
5 Max. density spacing	0	0	0	0	0	0	0	9
6 Studies	0	0	0	0	0	0	0	9
7 Other	0	0	0	0	0	0	0	9
Totals	$226	$0	$300	$26	$200	$201	$1	

Appendix 5: Chilliwack Forest District
Table F: Habitat Supply Activities
August 18 1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	9
2 Site preparation	0	0	0	0	0	0	0	9
3 Planting	0	0	0	0	0	0	0	9
4 Brushing	0	0	0	0	0	0	0	9
5 Spacing	0	0	0	0	0	0	0	9
6 Pruning	0	0	0	0	0	0	0	9
7 Studies	0	0	0	0	0	0	0	9
8 Others	0	0	0	0	0	0	0	9
Totals	0	0	0	0	0	$0	$0	

See MELP Tables for Summaries

Appendix 5: Chilliwack Forest District
Summary Table
August 18 1999

Table Totals	Five-Year Plan Goals (ha) 2000/2001	2001/2002	2002/2003	2003/2004	2004/2005	Annual Plan 2000/01 Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	984	226	198	96	48	190,750	194	
Table B: Stand Tending Activities	6,864	7,180	7,410	7,210	7,410	2,900,600	423	
Table C: Forest Health Enhancement Activities	0	0	0	0	0	0	0	
Table D: Forest Health Maintenance Activities	3	3	3	3	3	2,000	665	
Table E: Current Fire and Pest Activities	226	0	300	26	200	201	1	
Table F: Habitat Supply Activities	0	0	0	0	0	0	0	
Totals of all tables	8,077	7,409	7,911	7,335	7,661	3,093,551	383	

Activities Sorted by Priority (Ctl-e)

Management Unit	Table and category		Activity	Five-Year Plan Goals (ha) 2000/2001	2001/2002	2002/2003	2003/2004	2004/2005	Annual Plan 2000/01 Funding ($000)	Unit Cost ($)	Man. Unit Priority	Regional Priority
Appendix 5: Chilliwack Forest District	A	Backlog Legal	1 Planning/surveys/presc.	118	24	0	65	37	3,500	30	1	0
Appendix 5: Chilliwack Forest District	A	Backlog Legal	2 Site preparation	3	9	0	0	0	3,000	1,000	1	0
Appendix 5: Chilliwack Forest District	A	Backlog Legal	3 Planting	6	6	0	0	0	6,000	1,000	1	0
Appendix 5: Chilliwack Forest District	A	Backlog Legal	4 Brushing	78	28	19	11	11	39,000	500	1	0
Appendix 5: Chilliwack Forest District	A	Backlog Legal	5 Seed Purchase	6	7	0	0	0	1,800	300	1	0
Appendix 5: Chilliwack Forest District	A	Backlog Legal	6 Max. density spacing	0	0	0	0	0	0	0	9	0
Appendix 5: Chilliwack Forest District	A	Backlog Legal	7 Pruning	0	0	0	0	0	0	0	9	0
Appendix 5: Chilliwack Forest District	A	Backlog Backlog	1 Planning/surveys/presc.	140	50	20	0	0	4,200	30	2	0
Appendix 5: Chilliwack Forest District	A	Backlog Backlog	2 Site preparation	27	0	0	0	0	27,000	1,000	2	0
Appendix 5: Chilliwack Forest District	A	Backlog Backlog	3 Site Restoration Road/land	0	0	0	0	0	0	0	9	0
Appendix 5: Chilliwack Forest District	A	Backlog Backlog	4 Planting	13	11	0	0	0	13,000	1,000	2	0
Appendix 5: Chilliwack Forest District	A	Backlog Backlog	5 Brushing	0	20	20	20	0	0	0	9	0
Appendix 5: Chilliwack Forest District	A	Backlog Backlog	6 Seed Purchase	13	11	0	0	0	3,000	231	2	0
Appendix 5: Chilliwack Forest District	A	Backlog Impeded	1 Planning/surveys/presc.	425	40	128	0	0	12,750	30	2	0
Appendix 5: Chilliwack Forest District	A	Backlog Impeded	2 Site preparation	0	0	0	0	0	0	0	9	0
Appendix 5: Chilliwack Forest District	A	Backlog Impeded	3 Planting	0	0	0	0	0	0	0	9	0
Appendix 5: Chilliwack Forest District	A	Backlog Impeded	4 Brushing	155	20	11	0	0	77,500	500	2	0
Appendix 5: Chilliwack Forest District	A	Backlog Impeded	5 Seed Purchase	0	0	0	0	0	0	0	0	0
Appendix 5: Chilliwack Forest District	A	Backlog Total	7 Studies	0	0	0	0	0	0	0	0	0
Appendix 5: Chilliwack Forest District	B	Stand Tending	1 Planning/surveys/presc.	3,580	3,580	3,580	3,580	3,580	179,000	50	1	0
Appendix 5: Chilliwack Forest District	B	Stand Tending	2 Spacing	1,060	1,050	1,050	1,050	1,050	1,478,000	1,394	2	0
Appendix 5: Chilliwack Forest District	B	Stand Tending	3 Pruning	524	530	530	530	530	733,600	1,400	2	0
Appendix 5: Chilliwack Forest District	B	Stand Tending	4 Fertilizing	1,700	2,000	2,200	2,000	2,200	510,000	300	1	0
Appendix 5: Chilliwack Forest District	B	Stand Tending	5 Studies	0	0	0	0	0	0	0	9	0
Appendix 5: Chilliwack Forest District	B	Stand Tending	6 Other	0	20	50	50	50	0	0	9	0
Appendix 5: Chilliwack Forest District	C	F. H. Enhancement	1 Site rehab	0	0	0	0	0	0	0	9	0
Appendix 5: Chilliwack Forest District	C	F. H. Enhancement	2 Spacing	0	0	0	0	0	0	0	9	0
Appendix 5: Chilliwack Forest District	C	F. H. Enhancement	3 Pruning	0	0	0	0	0	0	0	9	0

Appendix 5: Chilliwack Forest District	C	F. H. Enhancement	4	Studies	0	0	0	0	0	0	0	9	0
Appendix 5: Chilliwack Forest District	C	F. H. Enhancement	5	Others	0	0	0	0	0	0	0	9	0
Appendix 5: Chilliwack Forest District	D	F. H. Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	0	0	0
Appendix 5: Chilliwack Forest District	D	F. H. Maintenance	2	Aerial Surveys (hours flying)	3	3	3	3	3	2,000	667	2	0
Appendix 5: Chilliwack Forest District	D	F. H. Maintenance	3	Fall & burn treatment (trees	0	0	0	0	0	0	0	0	0
Appendix 5: Chilliwack Forest District	D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	0	0
Appendix 5: Chilliwack Forest District	D	F. H. Maintenance	5	Pheromone baiting (trees)	0	0	0	0	0	0	0	0	0
Appendix 5: Chilliwack Forest District	D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	0	0
Appendix 5: Chilliwack Forest District	D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	0	0	0
Appendix 5: Chilliwack Forest District	D	F. H. Maintenance	8	Other	0	0	0	0	0	0	0	0	0
Appendix 5: Chilliwack Forest District	E	Current Fire/Pest	1	Planning/surveys/presc.	26	0	200	26	200	1	0	1	0
Appendix 5: Chilliwack Forest District	E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	0	9	0
Appendix 5: Chilliwack Forest District	E	Current Fire/Pest	3	Planting	200	0	0	0	0	200	1	1	0
Appendix 5: Chilliwack Forest District	E	Current Fire/Pest	4	Brushing	0	0	100	0	0	0	0	9	0
Appendix 5: Chilliwack Forest District	E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	9	0
Appendix 5: Chilliwack Forest District	E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	9	0
Appendix 5: Chilliwack Forest District	E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	9	0
Appendix 5: Chilliwack Forest District	F	Habitat Supply	1	Planning/surveys/presc.	0	0	0	0	0	0	0	9	0
Appendix 5: Chilliwack Forest District	F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	9	0
Appendix 5: Chilliwack Forest District	F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	9	0
Appendix 5: Chilliwack Forest District	F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	9	0
Appendix 5: Chilliwack Forest District	F	Habitat Supply	5	Spacing	0	0	0	0	0	0	0	9	0
Appendix 5: Chilliwack Forest District	F	Habitat Supply	6	Pruning	0	0	0	0	0	0	0	9	0
Appendix 5: Chilliwack Forest District	F	Habitat Supply	7	Studies	0	0	0	0	0	0	0	9	0
Appendix 5: Chilliwack Forest District	F	Habitat Supply	8	Others	0	0	0	0	0	0	0	9	0
											Check totals:		
	Totals				8,077	7,409	7,911	7,335	7,661	3,093,551	9,432	261	

Fraser Timber Supply area
Table A: Backlog Activities
36390

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Legal Obligations								
1 Planning/surveys/prescriptions	118	24	0	65	37	$4	$0	1
2 Site preparation	3	9	0	0	0	3	1	1
3 Planting	6	6	0	0	0	6	1	1
4 Brushing	78	28	19	11	7	39	1	1
5 Seed purchase	6	7	0	0	0	2	0	1
6 Max. density spacing	0	0	0	0	0	0	0	9
7 Pruning	0	0	0	0	0	0	0	0
Totals	211	74	19	76	44	53	$0	
Backlog Reforestation								
1 Planning/surveys/prescriptions	140	50	20	0	0	$4	$0	2
2 Site preparation	27	0	0	0	0	27	1	2
3 Site restoration road/land. rehab	0	0	0	0	0	0	0	9
4 Planting	13	11	0	0	0	13	1	2
5 Brushing	0	20	20	20	0	0	0	2
6 Seed purchase	13	11	0	0	0	3	0	2
Totals	193	92	40	20	0	$47	$0	
Impeded areas								
1 Planning/surveys/prescriptions	425	40	128	0	0	$13	$0	2
2 Site preparation	0	0	0	0	0	0	0	9
3 Planting	0	0	0	0	0	0	0	9
4 Brushing	155	20	11	0	0	78	1	2
5 Seed purchase	0	0	0	0	0	0	0	9
Totals	580	60	139	0	0	$90	$0	
Backlog Activities - Management Unit Total								
1 Planning/surveys/prescriptions	683	114	148	65	37	$20	$0	
2 Site preparation	30	9	0	0	0	30	1	
3 Site restoration road/land. rehab	0	0	0	0	0	0	0	
4 Planting	19	17	0	0	0	19	1	
5 Brushing	233	68	50	31	7	117	0	
6 Seed purchase	19	18	0	0	0	5	0	
7 Max. density spacing	0	0	0	0	0	0	0	
8 Pruning	0	0	0	0	0	0	0	
9 Studies	0	0	0	0	0	0	0	0
Totals	984	226	198	96	44	$191	$0	

Fraser Timber Supply area
Table B: Stand Tending Activities
36390

	Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	3500	3500	3500	3500	3500	$175,000	$50	1
2	Spacing	1000	1000	1000	1000	1000	1,400,000	1,400	2
3	Pruning	500	500	500	500	500	700,000	1,400	2
4	Fertilizing	1500	2000	2000	2000	2000	450,000	300	1
5	Studies	0	0	0	0	0	0	0	9
6	Other	0	20	50	50	50	0	0	2
	Totals	6500	7020	7050	7050	7050	2725000	$419	

Fraser Timber Supply area
Table C: Forest Health Enhancement Activities
36390

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Site rehab	0	0	0	0	0	$0	$0	0
2 Spacing	0	0	0	0	0	0	0	0
3 Pruning	0	0	0	0	0	0	0	0
4 Studies	0	0	0	0	0	0	0	0
5 Others	0	0	0	0	0	0	0	0
Totals	0	0	0	0	0	$0	$0	

Fraser Timber Supply area
Table D: Forest Health Maintenance Activities
36390

Activities	Units	Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Ground Surveys	ha	0	0	0	0	0	$0	$0	0
2 Aerial Surveys	hours of flying time	3	3	3	3	3	2,000	667	2
3 Fall and burn treatment	trees	0	0	0	0	0	0	0	0
4 MSMA treatment	trees	0	0	0	0	0	0	0	0
5 Pheromone baiting	trees	0	0	0	0	0	0	0	0
6 Defoliator spraying	ha	0	0	0	0	0	0	0	0
7 Studies	number	0	0	0	0	0	0	0	0
8 Other		0	0	0	0	0	0	0	0
Totals		3	3	3	3	3	$2,000	$665	

Fraser Timber Supply area
Table E: Current Fire and Pest Activities
36390

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	26	0	200	26	200	$1	$0	1
2 Site preparation	0	0	0	0	0	0	0	9
3 Planting	200	0	0	0	0	200,000	1,000	1
4 Brushing	0	0	100	0	0	0	0	2
5 Max. density spacing	0	0	0	0	0	0	0	9
6 Studies	0	0	0	0	0	0	0	9
7 Other	0	0	0	0	0	0	0	9
Totals	$226	$0	$300	$26	$200	$200,001	$885	

Fraser Timber Supply area
Table F: Habitat Supply Activities
36390

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	9
2 Site preparation	0	0	0	0	0	0	0	9
3 Planting	0	0	0	0	0	0	0	9
4 Brushing	0	0	0	0	0	0	0	9
5 Spacing	0	0	0	0	0	0	0	9
6 Pruning	0	0	0	0	0	0	0	9
7 Studies	0	0	0	0	0	0	0	9
8 Others	0	0	0	0	0	0	0	9
Totals	0	0	0	0	0	$0	$0	

Fraser Timber Supply area
Summary Table
36390

	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
Table Totals	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	984	226	198	96	44	191	0	
Table B: Stand Tending Activities	6,500	7,020	7,050	7,050	7,050	2,725,000	419	
Table C: Forest Health Enhancement Activities	0	0	0	0	0	0	0	
Table D: Forest Health Maintenance Activities	3	3	3	3	3	2,000	665	
Table E: Current Fire and Pest Activities	226	0	300	26	200	200,001	885	
Table F: Habitat Supply Activities	0	0	0	0	0	0	0	
Totals of all tables	7,713	7,249	7,551	7,175	7,297	2,927,192	380	

Activities Sorted by Priority (Ctl-e)

					Five-Year Plan Goals (ha)					Annual Plan 2000/01		
Table and category			**Activity**		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority
A	Backlog	Legal	1	Planning/surveys/presc.	118	24	0	65	37	4	0	1
A	Backlog	Legal	2	Site preparation	3	9	0	0	0	3	1	1
A	Backlog	Legal	3	Planting	6	6	0	0	0	6	1	1
A	Backlog	Legal	4	Brushing	78	28	19	11	7	39	1	1
A	Backlog	Legal	5	Seed Purchase	6	7	0	0	0	2	0	1
A	Backlog	Legal	6	Max. density spacing	0	0	0	0	0	0	0	9
A	Backlog	Legal	7	Pruning	0	0	0	0	0	0	0	0
A	Backlog	Backlog	1	Planning/surveys/presc.	140	50	20	0	0	4	0	2
A	Backlog	Backlog	2	Site preparation	27	0	0	0	0	27	1	2
A	Backlog	Backlog	3	Site Restoration Road/land.	0	0	0	0	0	0	0	9
A	Backlog	Backlog	4	Planting	13	11	0	0	0	13	1	2
A	Backlog	Backlog	5	Brushing	0	20	20	20	0	0	0	2
A	Backlog	Backlog	6	Seed Purchase	13	11	0	0	0	3	0	2
A	Backlog	Impeded	1	Planning/surveys/presc.	425	40	128	0	0	13	0	2

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
A	Backlog Impeded	2	Site preparation	0	0	0	0	0	0	0	9
A	Backlog Impeded	3	Planting	0	0	0	0	0	0	0	9
A	Backlog Impeded	4	Brushing	155	20	11	0	0	78	1	2
A	Backlog Impeded	5	Seed Purchase	0	0	0	0	0	0	0	9
A	Backlog Total	7	Studies	0	0	0	0	0	0	0	0
B	Stand Tending	1	Planning/surveys/presc.	3,500	3,500	3,500	3,500	3,500	175,000	50	1
B	Stand Tending	2	Spacing	1,000	1,000	1,000	1,000	1,000	1,400,000	1,400	2
B	Stand Tending	3	Pruning	500	500	500	500	500	700,000	1,400	2
B	Stand Tending	4	Fertilizing	1,500	2,000	2,000	2,000	2,000	450,000	300	1
B	Stand Tending	5	Studies	0	0	0	0	0	0	0	9
B	Stand Tending	6	Other	0	20	50	50	50	0	0	2
C	F. H. Enhancement	1	Site rehab	0	0	0	0	0	0	0	0
C	F. H. Enhancement	2	Spacing	0	0	0	0	0	0	0	0
C	F. H. Enhancement	3	Pruning	0	0	0	0	0	0	0	0
C	F. H. Enhancement	4	Studies	0	0	0	0	0	0	0	0
C	F. H. Enhancement	5	Others	0	0	0	0	0	0	0	0
D	F. H. Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	2	Aerial Surveys (hours flying	3	3	3	3	3	2,000	667	2
D	F. H. Maintenance	3	Fall & burn treatment (trees	0	0	0	0	0	0	0	0
D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	5	Pheromone baiting (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	8	Other	0	0	0	0	0	0	0	0
E	Current Fire/Pest	1	Planning/surveys/presc.	26	0	200	26	200	1	0	1
E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	0	9
E	Current Fire/Pest	3	Planting	200	0	0	0	0	200,000	1,000	1
E	Current Fire/Pest	4	Brushing	0	0	100	0	0	0	0	2
E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	9
E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	9
E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	9
F	Habitat Supply	1	Planning/surveys/presc.	0	0	0	0	0	0	0	9
F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	9
F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	9
F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	9

Table Totals

			Five-Year Plan Goals (ha)					Annual Plan 2000/01		
			2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
F	Habitat Supply	5 Spacing	0	0	0	0	0	0	0	9
F	Habitat Supply	6 Pruning	0	0	0	0	0	0	0	9
F	Habitat Supply	7 Studies	0	0	0	0	0	0	0	9
F	Habitat Supply	8 Others	0	0	0	0	0	0	0	9
									Check totals:	
Totals			7,713	7,249	7,551	7,175	7,297	2,927,192	4,822	195

Appendix 6: Squamish Forest District
Table A: Backlog Activities
September 30,1999

Legal Obligations

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	400	400	400	400	400	$20,000	$50	1
2	Site preparation	0	0	0	0	0	0	#DIV/0!	9
3	Planting	30	30	30	30	30	24,000	800	1
4	Brushing	30	30	30	30	30	37,500	1,250	1
5	Seed purchase	30	30	30	30	30	250	8	1
6	Max. density spacing	0	0	0	0	0	0	#DIV/0!	9
7	Pruning	0	0	0	0	0	0	#DIV/0!	9
	Totals	490	490	490	490	490	81750	$167	

Backlog Reforestation

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	1175	850	800	800	800	$66,125	$56	1
2	Site preparation	25	25	25	25	25	17,500	700	1
3	Site restoration road/land. rehab	0	0	0	0	0	0	#DIV/0!	9
4	Planting	70	60	60	60	60	80,000	1,143	2
5	Brushing	250	200	150	150	150	392,500	1,570	9
6	Seed purchase	50	50	50	50	50	400	8	1
	Totals	1570	1185	1085	1085	1085	$556,525	$354	

Impeded areas

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	900	900	900	900	900	$63,000	$70	1
2	Site preparation	0	0	0	0	0	0	#DIV/0!	9
3	Planting	0	0	0	0	0	0	#DIV/0!	9
4	Brushing	100	100	100	100	100	125,000	1,250	1
5	Seed purchase	0	0	0	0	0	0	#DIV/0!	9
	Totals	1000	1000	1000	1000	1000	$188,000	$188	

Backlog Activities - Management Unit Total

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	2475	2150	2100	2100	2100	$149,125	$60	
2	Site preparation	25	25	25	25	25	17,500	700	
3	Site restoration road/land. rehab	0	0	0	0	0	0	#DIV/0!	
4	Planting	100	90	90	90	90	104,000	1,040	
5	Brushing	380	330	280	280	280	555,000	1,461	
6	Seed purchase	80	80	80	80	80	650	8	
7	Max. density spacing	0	0	0	0	0	0	#DIV/0!	
8	Pruning	0	0	0	0	0	0	#DIV/0!	
9	Studies	0	0	0	0	0	0	0	0
	Totals	3060	2675	2575	2575	2575	$826,275	$270	

Appendix 6: Squamish Forest District
Table B: Stand Tending Activities
September 30,1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	3050	2900	2800	2800	2800	$198,750	$65	2
2	Spacing	1350	1350	1325	1325	1300	1,830,000	1,356	2
3	Pruning	230	230	215	215	200	515,000	2,239	3
4	Fertilizing	1450	1450	1440	1400	1400	375,000	259	1
5	Studies	100	100	100	100	100	25,000	250	2
6	Other	0	0	0	0	0	0	#DIV/0!	0
	Totals	6180	6030	5880	5840	5800	2943750	$476	

Appendix 6: Squamish Forest District
Table C: Forest Health Enhancement Activities
September 30,1999

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Site rehab	0	0	0	0	0	$0	$0	0
2 Spacing	0	0	0	0	0	0	0	0
3 Pruning	0	0	0	0	0	0	0	0
4 Studies	0	0	0	0	0	0	0	0
5 Others	0	0	0	0	0	0	0	0
Totals	0	0	0	0	0	$0	$0	

Appendix 6: Squamish Forest District
Table D: Forest Health Maintenance Activities
September 30,1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	**Units**	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Ground Surveys	ha	0	0	0	0	0	$0	$0	0
2 Aerial Surveys	hours of flying time	0	0	0	0	0	0	0	0
3 Fall and burn treatment	trees	0	0	0	0	0	0	0	0
4 MSMA treatment	trees	0	0	0	0	0	0	0	0
5 Pheromone baiting	trees	0	0	0	0	0	0	0	0
6 Defoliator spraying	ha	0	0	0	0	0	0	0	0
7 Studies	number	0	0	0	0	0	0	0	0
8 Other		0	0	0	0	0	0	0	0
Totals		0	0	0	0	0	$0	$0	

Appendix 6: Squamish Forest District
Table E: Current Fire and Pest Activities
September 30,1999

	Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2	Site preparation	0	0	0	0	0	0	0	0
3	Planting	0	0	0	0	0	0	0	0
4	Brushing	0	0	0	0	0	0	0	0
5	Max. density spacing	0	0	0	0	0	0	0	0
6	Studies	0	0	0	0	0	0	0	0
7	Other	0	0	0	0	0	0	0	0
	Totals	$0	$0	$0	$0	$0	$0	$0	

Appendix 6: Squamish Forest District
Table F: Habitat Supply Activities
September 30,1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2 Site preparation	0	0	0	0	0	0	0	0
3 Planting	0	0	0	0	0	0	0	0
4 Brushing	0	0	0	0	0	0	0	0
5 Spacing	0	0	0	0	0	0	0	0
6 Pruning	0	0	0	0	0	0	0	0
7 Studies	0	0	0	0	0	0	0	0
8 Others	0	0	0	0	0	0	#DIV/0!	3
Totals	0	0	0	0	0	$0	$0	

See MELP Tables for Summaries

Appendix 6: Squamish Forest District
Summary Table
September 30,1999

Table Totals	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	3,060	2,675	2,575	2,575	2,575	826,275	270	
Table B: Stand Tending Activities	6,180	6,030	5,880	5,840	5,800	2,943,750	476	
Table C: Forest Health Enhancement Activities	0	0	0	0	0	0	0	
Table D: Forest Health Maintenance Activities	0	0	0	0	0	0	0	
Table E: Current Fire and Pest Activities	0	0	0	0	0	0	0	
Table F: Habitat Supply Activities	0	0	0	0	0	0	0	
Totals of all tables	9,240	8,705	8,455	8,415	8,375	3,770,025	408	

Activities Sorted by Priority (Ctl-e)

Management Unit	Table and category				Activity	Five-Year Plan Goals (ha)					Annual Plan 2000/01			
						2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority	Regional Priority
Appendix 6: Squamish Forest District	A	Backlog	Legal	1	Planning/surveys/presc.	400	400	400	400	400	20,000	50	1	0
Appendix 6: Squamish Forest District	A	Backlog	Legal	2	Site preparation	0	0	0	0	0	0	#DIV/0!	9	0
Appendix 6: Squamish Forest District	A	Backlog	Legal	3	Planting	30	30	30	30	30	24,000	800	1	0
Appendix 6: Squamish Forest District	A	Backlog	Legal	4	Brushing	30	30	30	30	30	37,500	1,250	1	0
Appendix 6: Squamish Forest District	A	Backlog	Legal	5	Seed Purchase	30	30	30	30	30	250	8	1	0
Appendix 6: Squamish Forest District	A	Backlog	Legal	6	Max. density spacing	0	0	0	0	0	0	#DIV/0!	9	0
Appendix 6: Squamish Forest District	A	Backlog	Legal	7	Pruning	0	0	0	0	0	0	#DIV/0!	9	0
Appendix 6: Squamish Forest District	A	Backlog	Backlog	1	Planning/surveys/presc.	1,175	850	800	800	800	66,125	56	1	0
Appendix 6: Squamish Forest District	A	Backlog	Backlog	2	Site preparation	25	25	25	25	25	17,500	700	1	0
Appendix 6: Squamish Forest District	A	Backlog	Backlog	3	Site Restoration Road/land	0	0	0	0	0	0	#DIV/0!	9	0
Appendix 6: Squamish Forest District	A	Backlog	Backlog	4	Planting	70	60	60	60	60	80,000	1,143	2	0
Appendix 6: Squamish Forest District	A	Backlog	Backlog	5	Brushing	250	200	150	150	150	392,500	1,570	9	0
Appendix 6: Squamish Forest District	A	Backlog	Backlog	6	Seed Purchase	50	50	50	50	50	400	8	1	0
Appendix 6: Squamish Forest District	A	Backlog	Impeded	1	Planning/surveys/presc.	900	900	900	900	900	63,000	70	1	0
Appendix 6: Squamish Forest District	A	Backlog	Impeded	2	Site preparation	0	0	0	0	0	0	#DIV/0!	9	0
Appendix 6: Squamish Forest District	A	Backlog	Impeded	3	Planting	0	0	0	0	0	0	#DIV/0!	9	0
Appendix 6: Squamish Forest District	A	Backlog	Impeded	4	Brushing	100	100	100	100	100	125,000	1,250	1	0
Appendix 6: Squamish Forest District	A	Backlog	Impeded	5	Seed Purchase	0	0	0	0	0	0	#DIV/0!	9	0
Appendix 6: Squamish Forest District	A	Backlog	Total	7	Studies	0	0	0	0	0	0	0	0	0
Appendix 6: Squamish Forest District	B	Stand Tending		1	Planning/surveys/presc.	3,050	2,900	2,800	2,800	2,800	198,750	65	2	0
Appendix 6: Squamish Forest District	B	Stand Tending		2	Spacing	1,350	1,350	1,325	1,325	1,300	1,830,000	1,356	2	0
Appendix 6: Squamish Forest District	B	Stand Tending		3	Pruning	230	230	215	215	200	515,000	2,239	3	0
Appendix 6: Squamish Forest District	B	Stand Tending		4	Fertilizing	1,450	1,450	1,440	1,400	1,400	375,000	259	1	0
Appendix 6: Squamish Forest District	B	Stand Tending		5	Studies	100	100	100	100	100	25,000	250	2	0
Appendix 6: Squamish Forest District	B	Stand Tending		6	Other	0	0	0	0	0	0	#DIV/0!	0	0
Appendix 6: Squamish Forest District	C	F. H. Enhancement		1	Site rehab	0	0	0	0	0	0	0	0	0
Appendix 6: Squamish Forest District	C	F. H. Enhancement		2	Spacing	0	0	0	0	0	0	0	0	0
Appendix 6: Squamish Forest District	C	F. H. Enhancement		3	Pruning	0	0	0	0	0	0	0	0	0

Appendix 6: Squamish Forest District	C	F. H. Enhancement	4	Studies	0	0	0	0	0	0	0	0	0
Appendix 6: Squamish Forest District	C	F. H. Enhancement	5	Others	0	0	0	0	0	0	0	0	0
Appendix 6: Squamish Forest District	D	F. H. Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	0	0	0
Appendix 6: Squamish Forest District	D	F. H. Maintenance	2	Aerial Surveys (hours flying	0	0	0	0	0	0	0	0	0
Appendix 6: Squamish Forest District	D	F. H. Maintenance	3	Fall & burn treatment (trees	0	0	0	0	0	0	0	0	0
Appendix 6: Squamish Forest District	D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	0	0
Appendix 6: Squamish Forest District	D	F. H. Maintenance	5	Pheromone baiting (trees)	0	0	0	0	0	0	0	0	0
Appendix 6: Squamish Forest District	D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	0	0
Appendix 6: Squamish Forest District	D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	0	0	0
Appendix 6: Squamish Forest District	D	F. H. Maintenance	8	Other	0	0	0	0	0	0	0	0	0
Appendix 6: Squamish Forest District	E	Current Fire/Pest	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0	0
Appendix 6: Squamish Forest District	E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	0	0	0
Appendix 6: Squamish Forest District	E	Current Fire/Pest	3	Planting	0	0	0	0	0	0	0	0	0
Appendix 6: Squamish Forest District	E	Current Fire/Pest	4	Brushing	0	0	0	0	0	0	0	0	0
Appendix 6: Squamish Forest District	E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	0	0
Appendix 6: Squamish Forest District	E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	0	0
Appendix 6: Squamish Forest District	E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	0	0
Appendix 6: Squamish Forest District	F	Habitat Supply	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0	0
Appendix 6: Squamish Forest District	F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	0	0
Appendix 6: Squamish Forest District	F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	0	0
Appendix 6: Squamish Forest District	F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	0	0
Appendix 6: Squamish Forest District	F	Habitat Supply	5	Spacing	0	0	0	0	0	0	0	0	0
Appendix 6: Squamish Forest District	F	Habitat Supply	6	Pruning	0	0	0	0	0	0	0	0	0
Appendix 6: Squamish Forest District	F	Habitat Supply	7	Studies	0	0	0	0	0	0	0	0	0
Appendix 6: Squamish Forest District	F	Habitat Supply	8	Others	0	0	0	0	0	0	#DIV/0!	3	0
											Check totals:		
	Totals				9,240	8,705	8,455	8,415	8,375	3,770,025	#DIV/0!	96	

SOO TSA
Table A: Backlog Activities
24-Aug-99

Legal Obligations

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	400	400	400	400	400	$20,000	$50	1
2	Site preparation	0	0	0	0	0	0	0	9
3	Planting	30	30	30	30	30	24,000	800	1
4	Brushing	30	30	30	30	30	37,500	1,250	1
5	Seed purchase	30	30	30	30	30	250	8	1
6	Max. density spacing	0	0	0	0	0	0	0	9
7	Pruning	0	0	0	0	0	0	0	9
	Totals	490	490	490	490	490	81750	$167	

Backlog Reforestation

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	300	300	300	300	300	$18,000	$60	1
2	Site preparation	25	25	25	25	25	17,500	700	1
3	Site restoration road/land. rehab	0	0	0	0	0	0	0	9
4	Planting	50	50	50	50	50	40,000	800	1
5	Brushing	50	50	50	50	50	62,500	1,250	1
6	Seed purchase	50	50	50	50	50	400	8	1
	Totals	475	475	475	475	475	$138,400	$291	

Impeded areas

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	900	900	900	900	900	$63,000	$70	1
2	Site preparation	0	0	0	0	0	0	0	9
3	Planting	0	0	0	0	0	0	0	9
4	Brushing	100	100	100	100	100	125,000	1,250	1
5	Seed purchase	0	0	0	0	0	0	0	9
	Totals	1000	1000	1000	1000	1000	$188,000	$188	

Backlog Activities - Management Unit Total

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	1600	1600	1600	1600	1600	$101,000	$63	
2	Site preparation	25	25	25	25	25	17,500	700	
3	Site restoration road/land. rehab	0	0	0	0	0	0	0	
4	Planting	80	80	80	80	80	64,000	800	
5	Brushing	180	180	180	180	180	225,000	1,250	
6	Seed purchase	80	80	80	80	80	650	8	
7	Max. density spacing	0	0	0	0	0	0	0	
8	Pruning	0	0	0	0	0	0	0	
9	Studies	0	0	0	0	0	0	0	0
	Totals	1965	1965	1965	1965	1965	$408,150	$208	

SOO TSA
Table B: Stand Tending Activities
24-Aug-99

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	2400	2400	2400	2400	2400	$150,000	$63	2
2 Spacing	1200	1200	1200	1200	1200	1,560,000	1,300	2
3 Pruning	150	150	150	150	150	275,000	1,833	3
4 Fertilizing	1400	1400	1400	1400	1400	350,000	250	1
5 Studies (Fertilizer screening trials-Ba)	100	100	100	100	100	25,000	250	2
6 Other	0	0	0	0	0	0	0	9
Totals	5250	5250	5250	5250	5250	2360000	$450	

Management Unit Name on Instructions
Table C: Forest Health Enhancement Activities
Report Date on Instructions

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Site rehab	0	0	0	0	0	$0	$0	0
2 Spacing	0	0	0	0	0	0	0	0
3 Pruning	0	0	0	0	0	0	0	0
4 Studies	0	0	0	0	0	0	0	0
5 Others	0	0	0	0	0	0	0	0
Totals	0	0	0	0	0	$0	$0	

Management Unit Name on Instructions
Table D: Forest Health Maintenance Activities
Report Date on Instructions

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	Units	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Ground Surveys	ha	0	0	0	0	0	$0	$0	0
2 Aerial Surveys	hours of flying time	0	0	0	0	0	0	0	0
3 Fall and burn treatment	trees	0	0	0	0	0	0	0	0
4 MSMA treatment	trees	0	0	0	0	0	0	0	0
5 Pheromone baiting	trees	0	0	0	0	0	0	0	0
6 Defoliator spraying	ha	0	0	0	0	0	0	0	0
7 Studies	number	0	0	0	0	0	0	0	0
8 Other		0	0	0	0	0	0	0	0
Totals		0	0	0	0	0	$0	$0	

Management Unit Name on Instructions
Table E: Current Fire and Pest Activities
Report Date on Instructions

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2 Site preparation	0	0	0	0	0	0	0	0
3 Planting	0	0	0	0	0	0	0	0
4 Brushing	0	0	0	0	0	0	0	0
5 Max. density spacing	0	0	0	0	0	0	0	0
6 Studies	0	0	0	0	0	0	0	0
7 Other	0	0	0	0	0	0	0	0
Totals	$0	$0	$0	$0	$0	$0	$0	

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Table F: Habitat Supply Activities

24-Aug-99

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	9
2 Site preparation	0	0	0	0	0	0	0	9
3 Planting	0	0	0	0	0	0	0	9
4 Brushing	0	0	0	0	0	0	0	9
5 Spacing	0	0	0	0	0	0	0	9
6 Pruning	0	0	0	0	0	0	0	9
7 Studies	0	0	0	0	0	0	0	9
8 Owl Habitat Enhancement	50	50	50	50	50	50,000	1,000	3
Totals	50	50	50	50	50	$50,000	$1,000	

SOO TSA

Summary Table

24-Aug-99

Table Totals	Five-Year Plan Goals (ha) 2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Annual Plan 2000/01 Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	1,965	1,965	1,965	1,965	1,965	408,150	208	
Table B: Stand Tending Activities	5,250	5,250	5,250	5,250	5,250	2,360,000	450	
Table C: Forest Health Enhancement Activities	0	0	0	0	0	0	0	
Table D: Forest Health Maintenance Activities	0	0	0	0	0	0	0	
Table E: Current Fire and Pest Activities	0	0	0	0	0	0	0	
Table F: Habitat Supply Activities	50	50	50	50	50	50,000	1,000	
Totals of all tables	7,265	7,265	7,265	7,265	7,265	2,818,150	388	

Activities Sorted by Priority (Ctl-e)

Management Unit	Table and category			Activity	Five-Year Plan Goals (ha) 2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Annual Plan 2000/01 Funding ($000)	Unit Cost ($)	Man. Unit Priority	Regional Priority
SOO TSA	A	Backlog Legal	1	Planning/surveys/presc.	400	400	400	400	400	20,000	50	1	0
SOO TSA	A	Backlog Legal	2	Site preparation	0	0	0	0	0	0	0	9	0
SOO TSA	A	Backlog Legal	3	Planting	30	30	30	30	30	24,000	800	1	0
SOO TSA	A	Backlog Legal	4	Brushing	30	30	30	30	30	37,500	1,250	1	0
SOO TSA	A	Backlog Legal	5	Seed Purchase	30	30	30	30	30	250	8	1	0
SOO TSA	A	Backlog Legal	6	Max. density spacing	0	0	0	0	0	0	0	9	0
SOO TSA	A	Backlog Legal	7	Pruning	0	0	0	0	0	0	0	9	0
SOO TSA	A	Backlog Backlog	1	Planning/surveys/presc.	300	300	300	300	300	18,000	60	1	0
SOO TSA	A	Backlog Backlog	2	Site preparation	25	25	25	25	25	17,500	700	1	0
SOO TSA	A	Backlog Backlog	3	Site Restoration Road/land	0	0	0	0	0	0	0	9	0
SOO TSA	A	Backlog Backlog	4	Planting	50	50	50	50	50	40,000	800	1	0
SOO TSA	A	Backlog Backlog	5	Brushing	50	50	50	50	50	62,500	1,250	1	0
SOO TSA	A	Backlog Backlog	6	Seed Purchase	50	50	50	50	50	400	8	1	0
SOO TSA	A	Backlog Impeded	1	Planning/surveys/presc.	900	900	900	900	900	63,000	70	1	0
SOO TSA	A	Backlog Impeded	2	Site preparation	0	0	0	0	0	0	0	9	0
SOO TSA	A	Backlog Impeded	3	Planting	0	0	0	0	0	0	0	9	0
SOO TSA	A	Backlog Impeded	4	Brushing	100	100	100	100	100	125,000	1,250	1	0
SOO TSA	A	Backlog Impeded	5	Seed Purchase	0	0	0	0	0	0	0	9	0
SOO TSA	A	Backlog Total	7	Studies	0	0	0	0	0	0	0	0	0
SOO TSA	B	Stand Tending	1	Planning/surveys/presc.	2,400	2,400	2,400	2,400	2,400	150,000	63	2	0
SOO TSA	B	Stand Tending	2	Spacing	1,200	1,200	1,200	1,200	1,200	1,560,000	1,300	2	0
SOO TSA	B	Stand Tending	3	Pruning	150	150	150	150	150	275,000	1,833	3	0
SOO TSA	B	Stand Tending	4	Fertilizing	1,400	1,400	1,400	1,400	1,400	350,000	250	1	0
SOO TSA	B	Stand Tending	5	Studies	100	100	100	100	100	25,000	250	2	0
SOO TSA	B	Stand Tending	6	Other	0	0	0	0	0	0	0	9	0
SOO TSA	C	F. H. Enhancement	1	Site rehab	0	0	0	0	0	0	0	0	0
SOO TSA	C	F. H. Enhancement	2	Spacing	0	0	0	0	0	0	0	0	0
SOO TSA	C	F. H. Enhancement	3	Pruning	0	0	0	0	0	0	0	0	0

SOO TSA	C	F. H. Enhancement	4	Studies	0	0	0	0	0	0	0	0	0
SOO TSA	C	F. H. Enhancement	5	Others	0	0	0	0	0	0	0	0	0
SOO TSA	D	F. H. Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	0	0	0
SOO TSA	D	F. H. Maintenance	2	Aerial Surveys (hours flying	0	0	0	0	0	0	0	0	0
SOO TSA	D	F. H. Maintenance	3	Fall & burn treatment (trees	0	0	0	0	0	0	0	0	0
SOO TSA	D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	0	0
SOO TSA	D	F. H. Maintenance	5	Pheromone baiting (trees)	0	0	0	0	0	0	0	0	0
SOO TSA	D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	0	0
SOO TSA	D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	0	0	0
SOO TSA	D	F. H. Maintenance	8	Other	0	0	0	0	0	0	0	0	0
SOO TSA	E	Current Fire/Pest	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0	0
SOO TSA	E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	0	0	0
SOO TSA	E	Current Fire/Pest	3	Planting	0	0	0	0	0	0	0	0	0
SOO TSA	E	Current Fire/Pest	4	Brushing	0	0	0	0	0	0	0	0	0
SOO TSA	E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	0	0
SOO TSA	E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	0	0
SOO TSA	E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	0	0
SOO TSA	F	Habitat Supply	1	Planning/surveys/presc.	0	0	0	0	0	0	0	9	0
SOO TSA	F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	9	0
SOO TSA	F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	9	0
SOO TSA	F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	9	0
SOO TSA	F	Habitat Supply	5	Spacing	0	0	0	0	0	0	0	9	0
SOO TSA	F	Habitat Supply	6	Pruning	0	0	0	0	0	0	0	9	0
SOO TSA	F	Habitat Supply	7	Studies	0	0	0	0	0	0	0	9	0
SOO TSA	F	Habitat Supply	8	Others	50	50	50	50	50	50,000	1,000	3	0
											Check totals:		
	Totals				7,265	7,265	7,265	7,265	7,265	2,818,150	10,942	159	

Appendix 7:Sunshine Coast Forest District
Table A: Backlog Activities
September 30 1999

Legal Obligations	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	9
2 Site preparation	0	0	0	0	0	0	0	9
3 Planting	0	0	0	0	0	0	0	9
4 Brushing	0	0	0	0	0	0	0	9
5 Seed purchase	0	0	0	0	0	0	0	9
6 Max. density spacing	0	0	0	0	0	0	0	9
7 Pruning	0	0	0	0	0	0	0	9
Totals	0	0	0	0	0	0	$0	

Backlog Reforestation

1 Planning/surveys/prescriptions	350	100	275	250	200	$24,250	$69	1
2 Site preparation	0	0	0	0	0	0	#DIV/0!	9
3 Site restoration road/land. rehab	276	260	250	150	0	414,000	1,500	1
4 Planting	35	20	15	15	15	35,000	1,000	1
5 Brushing	65	65	65	0	0	61,750	950	1
6 Seed purchase	0	0	0	0	0	0	#DIV/0!	9
Totals	726	445	605	415	215	$535,000	$737	

Impeded areas

1 Planning/surveys/prescriptions	1300	750	500	250	50	$97,500	$75	1
2 Site preparation	0	0	0	0	0	0	#DIV/0!	9
3 Planting	35	25	0	0	0	42,000	1,200	1
4 Brushing	125	80	25	25	25	187,500	1,500	1
5 Seed purchase	0	0	0	0	0	0	#DIV/0!	9
Totals	1460	855	525	275	75	$327,000	$224	

Backlog Activities - Management Unit Total

1 Planning/surveys/prescriptions	1650	850	775	500	250	$121,750	$74	
2 Site preparation	0	0	0	0	0	0	0	
3 Site restoration road/land. rehab	276	260	250	150	0	414,000	1,500	
4 Planting	70	45	15	15	15	77,000	1,100	
5 Brushing	190	145	90	25	25	249,250	1,312	
6 Seed purchase	0	0	0	0	0	0	0	
7 Max. density spacing	0	0	0	0	0	0	0	
8 Pruning	0	0	0	0	0	0	0	
9 Studies	0	0	0	0	0	0	0	0
Totals	2186	1300	1130	690	290	$862,000	$394	

Appendix 7:Sunshine Coast Forest District
Table B: Stand Tending Activities
September 30 1999

	Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	2800	3100	3100	2800	2800	$210,000	$75	2
2	Spacing	1275	1385	1365	1360	1260	2,190,000	1,718	2
3	Pruning	1020	670	720	720	670	2,453,600	2,405	3
4	Fertilizing	400	400	500	700	600	140,000	350	4
5	Studies	0	0	0	0	0	0	#DIV/0!	9
6	Other	50	50	50	50	50	80,000	1,600	5
	Totals	5545	5605	5735	5630	5380	5073600	$915	

Appendix 7:Sunshine Coast Forest District
Table C: Forest Health Enhancement Activities
September 30 1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Site rehab	0	0	0	0	0	$0	#DIV/0!	9
2	Spacing	54	54	54	54	54	43,200	800	1
3	Pruning	25	25	25	25	25	10,000	400	2
4	Studies	0	0	0	0	0	0	#DIV/0!	9
5	Others	186	186	186	186	186	93,000	500	1
	Totals	265	265	265	265	265	$146,200	$552	

Appendix 7:Sunshine Coast Forest District
Table D: Forest Health Maintenance Activities
September 30 1999

Activities	Units	Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Ground Surveys	ha	540	540	540	540	540	$10,800	$20	1
2 Aerial Surveys	hours of flying time	15	15	15	15	15	1,050	70	1
3 Fall and burn treatment	trees	0	0	0	0	0	0	#DIV/0!	9
4 MSMA treatment	trees	0	0	0	0	0	0	#DIV/0!	9
5 Pheromone baiting	trees	0	0	0	0	0	0	#DIV/0!	9
6 Defoliator spraying	ha	0	0	0	0	0	0	#DIV/0!	9
7 Studies	number	0	0	0	0	0	0	#DIV/0!	9
8 Other		0	0	0	0	0	0	#DIV/0!	9
Totals		555	555	555	555	555	$11,850	$21	

Appendix 7:Sunshine Coast Forest District
Table E: Current Fire and Pest Activities
September 30 1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	100	50	100	100	100	$7,500	$75	1
2 Site preparation	0	100	50	100	100	0	#DIV/0!	9
3 Planting	0	100	50	100	100	0	#DIV/0!	9
4 Brushing	0	0	0	100	0	0	#DIV/0!	9
5 Max. density spacing	0	0	0	0	0	0	#DIV/0!	9
6 Studies	0	0	0	0	0	0	#DIV/0!	9
7 Other	0	0	0	0	0	0	#DIV/0!	9
Totals	$100	$250	$200	$400	$300	$7,500	$75	

Appendix 7:Sunshine Coast Forest District
Table F: Habitat Supply Activities
September 30 1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	#DIV/0!	n
2 Site preparation	0	0	0	0	0	0	#DIV/0!	n
3 Planting	0	0	0	0	0	0	#DIV/0!	n
4 Brushing	0	0	0	0	0	0	#DIV/0!	n
5 Spacing	0	0	0	0	0	0	#DIV/0!	n
6 Pruning	0	0	0	0	0	0	#DIV/0!	n
7 Studies	0	0	0	0	0	0	#DIV/0!	n
8 Others	0	0	0	0	0	0	#DIV/0!	n
Totals	0	0	0	0	0	$0	#DIV/0!	

See MELP Tables for Summaries

Appendix 7:Sunshine Coast Forest District
Summary Table
September 30 1999

Table Totals	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	2,186	1,300	1,130	690	290	862,000	394	
Table B: Stand Tending Activities	5,545	5,605	5,735	5,630	5,380	5,073,600	915	
Table C: Forest Health Enhancement Activities	265	265	265	265	265	146,200	552	
Table D: Forest Health Maintenance Activities	555	555	555	555	555	11,850	21	
Table E: Current Fire and Pest Activities	100	250	200	400	300	7,500	75	
Table F: Habitat Supply Activities	0	0	0	0	0	0	#DIV/0!	
Totals of all tables	8,651	7,975	7,885	7,540	6,790	6,101,150	705	

Activities Sorted by Priority (Ctl-e)

Table and category			Activity		Five-Year Plan Goals (ha)					Annual Plan 2000/01		
					2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority
A	Backlog	Legal	1	Planning/surveys/presc.	0	0	0	0	0	0	0	9
A	Backlog	Legal	2	Site preparation	0	0	0	0	0	0	0	9
A	Backlog	Legal	3	Planting	0	0	0	0	0	0	0	9
A	Backlog	Legal	4	Brushing	0	0	0	0	0	0	0	9
A	Backlog	Legal	5	Seed Purchase	0	0	0	0	0	0	0	9
A	Backlog	Legal	6	Max. density spacing	0	0	0	0	0	0	0	9
A	Backlog	Legal	7	Pruning	0	0	0	0	0	0	0	9
A	Backlog	Backlog	1	Planning/surveys/presc.	350	100	275	250	200	24,250	69	1
A	Backlog	Backlog	2	Site preparation	0	0	0	0	0	0	#DIV/0!	9
A	Backlog	Backlog	3	Site Restoration Road/land.	276	260	250	150	0	414,000	1,500	1
A	Backlog	Backlog	4	Planting	35	20	15	15	15	35,000	1,000	1
A	Backlog	Backlog	5	Brushing	65	65	65	0	0	61,750	950	1
A	Backlog	Backlog	6	Seed Purchase	0	0	0	0	0	0	#DIV/0!	9
A	Backlog	Impeded	1	Planning/surveys/presc.	1,300	750	500	250	50	97,500	75	1

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
A	Backlog Impeded	2	Site preparation	0	0	0	0	0	0	#DIV/0!	9
A	Backlog Impeded	3	Planting	35	25	0	0	0	42,000	1,200	1
A	Backlog Impeded	4	Brushing	125	80	25	25	25	187,500	1,500	1
A	Backlog Impeded	5	Seed Purchase	0	0	0	0	0	0	#DIV/0!	9
A	Backlog Total	7	Studies	0	0	0	0	0	0	0	0
B	Stand Tending	1	Planning/surveys/presc.	2,800	3,100	3,100	2,800	2,800	210,000	75	2
B	Stand Tending	2	Spacing	1,275	1,385	1,365	1,360	1,260	2,190,000	1,718	2
B	Stand Tending	3	Pruning	1,020	670	720	720	670	2,453,600	2,405	3
B	Stand Tending	4	Fertilizing	400	400	500	700	600	140,000	350	4
B	Stand Tending	5	Studies	0	0	0	0	0	0	#DIV/0!	9
B	Stand Tending	6	Other	50	50	50	50	50	80,000	1,600	5
C	F. H. Enhancement	1	Site rehab	0	0	0	0	0	0	#DIV/0!	9
C	F. H. Enhancement	2	Spacing	54	54	54	54	54	43,200	800	1
C	F. H. Enhancement	3	Pruning	25	25	25	25	25	10,000	400	2
C	F. H. Enhancement	4	Studies	0	0	0	0	0	0	#DIV/0!	9
C	F. H. Enhancement	5	Others	186	186	186	186	186	93,000	500	1
D	F. H. Maintenance	1	Ground Surveys (ha)	540	540	540	540	540	10,800	20	1
D	F. H. Maintenance	2	Aerial Surveys (hours flying	15	15	15	15	15	1,050	70	1
D	F. H. Maintenance	3	Fall & burn treatment (trees	0	0	0	0	0	0	#DIV/0!	9
D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	#DIV/0!	9
D	F. H. Maintenance	5	Pheromone baiting (trees)	0	0	0	0	0	0	#DIV/0!	9
D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	#DIV/0!	9
D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	#DIV/0!	9
D	F. H. Maintenance	8	Other	0	0	0	0	0	0	#DIV/0!	9
E	Current Fire/Pest	1	Planning/surveys/presc.	100	50	100	100	100	7,500	75	1
E	Current Fire/Pest	2	Site preparation	0	100	50	100	100	0	#DIV/0!	9
E	Current Fire/Pest	3	Planting	0	100	50	100	100	0	#DIV/0!	9
E	Current Fire/Pest	4	Brushing	0	0	0	100	0	0	#DIV/0!	9
E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	#DIV/0!	9
E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	#DIV/0!	9
E	Current Fire/Pest	7	Other	0	0	0	0	0	0	#DIV/0!	9
F	Habitat Supply	1	Planning/surveys/presc.	0	0	0	0	0	0	#DIV/0!	n
F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	#DIV/0!	n
F	Habitat Supply	3	Planting	0	0	0	0	0	0	#DIV/0!	n
F	Habitat Supply	4	Brushing	0	0	0	0	0	0	#DIV/0!	n

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
F	Habitat Supply	5	Spacing	0	0	0	0	0	0	#DIV/0!	n
F	Habitat Supply	6	Pruning	0	0	0	0	0	0	#DIV/0!	n
F	Habitat Supply	7	Studies	0	0	0	0	0	0	#DIV/0!	n
F	Habitat Supply	8	Others	0	0	0	0	0	0	#DIV/0!	n
										Check totals:	
Totals				8,651	7,975	7,885	7,540	6,790	6,101,150	#DIV/0!	264

Sunshine Coast TSA Summary
Table A: Backlog Activities
September 30 1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Legal Obligations	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	9
2	Site preparation	0	0	0	0	0	$0	0	9
3	Planting	0	0	0	0	0	$0	0	9
4	Brushing	0	0	0	0	0	$0	0	9
5	Seed purchase	0	0	0	0	0	$0	0	9
6	Max. density spacing	0	0	0	0	0	$0	0	9
7	Pruning	0	0	0	0	0	$0	0	9
	Totals	0	0	0	0	0	0	#DIV/0!	
	Backlog Reforestation								
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	9
2	Site preparation	0	0	0	0	0	$0	0	9
3	Site restoration road/land. rehab	0	0	0	0	0	$0	0	9
4	Planting	0	0	0	0	0	$0	0	9
5	Brushing	0	0	0	0	0	$0	0	9
6	Seed purchase	0	0	0	0	0	$0	0	9
	Totals	0	0	0	0	0	$0	#DIV/0!	
	Impeded areas								
1	Planning/surveys/prescriptions	1300	750	500	250	50	$97,500	$75	1
2	Site preparation	0	0	0	0	0	$0	0	9
3	Planting	35	25	0	0	0	$42,000	1,200	1
4	Brushing	125	80	25	25	25	$187,500	1,500	1
5	Seed purchase	0	0	0	0	0	$0	0	9
	Totals	1460	855	525	275	75	$327,000	$224	
	Backlog Activities - Management Unit Total								
1	Planning/surveys/prescriptions	1300	750	500	250	50	$97,500	$75	
2	Site preparation	0	0	0	0	0	0	#DIV/0!	
3	Site restoration road/land. rehab	0	0	0	0	0	0	#DIV/0!	
4	Planting	35	25	0	0	0	42,000	1,200	
5	Brushing	125	80	25	25	25	187,500	1,500	
6	Seed purchase	0	0	0	0	0	0	#DIV/0!	
7	Max. density spacing	0	0	0	0	0	0	#DIV/0!	
8	Pruning	0	0	0	0	0	0	#DIV/0!	
9	Studies	0	0	0	0	0	0	0	9
	Totals	1460	855	525	275	75	$327,000	$224	

Sunshine Coast TSA Summary
Table B: Stand Tending Activities
September 30 1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	2000	2000	2000	2000	2000	$150,000	$75	2
2	Spacing	1200	1200	1200	1200	1200	$2,040,000	1,700	2
3	Pruning	1000	650	650	650	650	$2,400,000	2,400	3
4	Fertilizing	400	400	400	400	400	$140,000	350	4
5	Studies	0	0	0	0	0	$0	0	9
6	Other	0	0	0	0	0	$0	0	9
	Totals	4600	4250	4250	4250	4250	4730000	$1,028	

Sunshine Coast TSA Summary
Table C: Forest Health Enhancement Activities
September 30 1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Site rehab	0	0	0	0	0	$0	$0	9
2	Spacing	54	54	54	54	54	$43,200	800	1
3	Pruning	25	25	25	25	25	$10,000	400	2
4	Studies	0	0	0	0	0	$0	0	9
5	Others	186	186	186	186	186	$93,000	500	1
	Totals	265	265	265	265	265	$146,200	$552	

Sunshine Coast TSA Summary
Table D: Forest Health Maintenance Activities
September 30 1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	**Units**	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Ground Surveys	ha	540	540	540	540	540	$10,800	$20	1
2 Aerial Surveys	hours of flying time	15	15	15	15	15	$1,050	70	1
3 Fall and burn treatment	trees	0	0	0	0	0	$0	0	9
4 MSMA treatment	trees	0	0	0	0	0	$0	0	9
5 Pheromone baiting	trees	0	0	0	0	0	$0	0	9
6 Defoliator spraying	ha	0	0	0	0	0	$0	0	9
7 Studies	number	0	0	0	0	0	$0	0	9
8 Other		0	0	0	0	0	$0	0	9
Totals		555	555	555	555	555	$11,850	$21	

Sunshine Coast TSA Summary
Table E: Current Fire and Pest Activities
September 30 1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	100	50	100	100	100	$7,500	$75	1
2 Site preparation	0	100	50	100	100	$0	1,200	1
3 Planting	0	100	50	100	100	$0	1,200	1
4 Brushing	0	0	0	100	0	$0	1,500	1
5 Max. density spacing	0	0	0	0	0	$0	0	9
6 Studies	0	0	0	0	0	$0	0	9
7 Other	0	0	0	0	0	$0	0	9
Totals	$100	$250	$200	$400	$300	$7,500	$75	

Sunshine Coast TSA Summary
Table F: Habitat Supply Activities
September 30 1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2 Site preparation	0	0	0	0	0	$0	0	0
3 Planting	0	0	0	0	0	$0	0	0
4 Brushing	0	0	0	0	0	$0	0	0
5 Spacing	0	0	0	0	0	$0	0	0
6 Pruning	0	0	0	0	0	$0	0	0
7 Studies	0	0	0	0	0	$0	0	0
8 Others	0	0	0	0	0	$0	0	0
Totals	0	0	0	0	0	$0	#DIV/0!	

Sunshine Coast TSA Summary
Summary Table
September 30 1999

	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
Table Totals	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	1,460	855	525	275	75	327,000	224	
Table B: Stand Tending Activities	4,600	4,250	4,250	4,250	4,250	4,730,000	1,028	
Table C: Forest Health Enhancement Activities	265	265	265	265	265	146,200	552	
Table D: Forest Health Maintenance Activities	555	555	555	555	555	11,850	21	
Table E: Current Fire and Pest Activities	100	250	200	400	300	7,500	75	
Table F: Habitat Supply Activities	0	0	0	0	0	0	#DIV/0!	
Totals of all tables	6,980	6,175	5,795	5,745	5,445	5,222,550	748	

Activities Sorted by Priority (Ctl-e)

					Five-Year Plan Goals (ha)					Annual Plan 2000/01		
Table and category			**Activity**		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority
A	Backlog	Legal	1	Planning/surveys/presc.	0	0	0	0	0	0	0	9
A	Backlog	Legal	2	Site preparation	0	0	0	0	0	0	0	9
A	Backlog	Legal	3	Planting	0	0	0	0	0	0	0	9
A	Backlog	Legal	4	Brushing	0	0	0	0	0	0	0	9
A	Backlog	Legal	5	Seed Purchase	0	0	0	0	0	0	0	9
A	Backlog	Legal	6	Max. density spacing	0	0	0	0	0	0	0	9
A	Backlog	Legal	7	Pruning	0	0	0	0	0	0	0	9
A	Backlog	Backlog	1	Planning/surveys/presc.	0	0	0	0	0	0	0	9
A	Backlog	Backlog	2	Site preparation	0	0	0	0	0	0	0	9
A	Backlog	Backlog	3	Site Restoration Road/land.	0	0	0	0	0	0	0	9
A	Backlog	Backlog	4	Planting	0	0	0	0	0	0	0	9
A	Backlog	Backlog	5	Brushing	0	0	0	0	0	0	0	9
A	Backlog	Backlog	6	Seed Purchase	0	0	0	0	0	0	0	9
A	Backlog	Impeded	1	Planning/surveys/presc.	1,300	750	500	250	50	97,500	75	1

Table Totals

					Five-Year Plan Goals (ha)					Annual Plan 2000/01		
					2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
A	Backlog	Impeded	2	Site preparation	0	0	0	0	0	0	0	9
A	Backlog	Impeded	3	Planting	35	25	0	0	0	42,000	1,200	1
A	Backlog	Impeded	4	Brushing	125	80	25	25	25	187,500	1,500	1
A	Backlog	Impeded	5	Seed Purchase	0	0	0	0	0	0	0	9
A	Backlog	Total	7	Studies	0	0	0	0	0	0	0	9
B	Stand Tending		1	Planning/surveys/presc.	2,000	2,000	2,000	2,000	2,000	150,000	75	2
B	Stand Tending		2	Spacing	1,200	1,200	1,200	1,200	1,200	2,040,000	1,700	2
B	Stand Tending		3	Pruning	1,000	650	650	650	650	2,400,000	2,400	3
B	Stand Tending		4	Fertilizing	400	400	400	400	400	140,000	350	4
B	Stand Tending		5	Studies	0	0	0	0	0	0	0	9
B	Stand Tending		6	Other	0	0	0	0	0	0	0	9
C	F. H. Enhancement		1	Site rehab	0	0	0	0	0	0	0	9
C	F. H. Enhancement		2	Spacing	54	54	54	54	54	43,200	800	1
C	F. H. Enhancement		3	Pruning	25	25	25	25	25	10,000	400	2
C	F. H. Enhancement		4	Studies	0	0	0	0	0	0	0	9
C	F. H. Enhancement		5	Others	186	186	186	186	186	93,000	500	1
D	F. H. Maintenance		1	Ground Surveys (ha)	540	540	540	540	540	10,800	20	1
D	F. H. Maintenance		2	Aerial Surveys (hours flying	15	15	15	15	15	1,050	70	1
D	F. H. Maintenance		3	Fall & burn treatment (trees	0	0	0	0	0	0	0	9
D	F. H. Maintenance		4	MSMA treatment (trees)	0	0	0	0	0	0	0	9
D	F. H. Maintenance		5	Pheromone baiting (trees)	0	0	0	0	0	0	0	9
D	F. H. Maintenance		6	Defoliator spraying (ha)	0	0	0	0	0	0	0	9
D	F. H. Maintenance		7	Studies (number)	0	0	0	0	0	0	0	9
D	F. H. Maintenance		8	Other	0	0	0	0	0	0	0	9
E	Current Fire/Pest		1	Planning/surveys/presc.	100	50	100	100	100	7,500	75	1
E	Current Fire/Pest		2	Site preparation	0	100	50	100	100	0	1,200	1
E	Current Fire/Pest		3	Planting	0	100	50	100	100	0	1,200	1
E	Current Fire/Pest		4	Brushing	0	0	0	100	0	0	1,500	1
E	Current Fire/Pest		5	Max. density spacing	0	0	0	0	0	0	0	9
E	Current Fire/Pest		6	Studies	0	0	0	0	0	0	0	9
E	Current Fire/Pest		7	Other	0	0	0	0	0	0	0	9
F	Habitat Supply		1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
F	Habitat Supply		2	Site preparation	0	0	0	0	0	0	0	0
F	Habitat Supply		3	Planting	0	0	0	0	0	0	0	0
F	Habitat Supply		4	Brushing	0	0	0	0	0	0	0	0

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
F	Habitat Supply	5	Spacing	0	0	0	0	0	0	0	0
F	Habitat Supply	6	Pruning	0	0	0	0	0	0	0	0
F	Habitat Supply	7	Studies	0	0	0	0	0	0	0	0
F	Habitat Supply	8	Others	0	0	0	0	0	0	0	0
										Check totals:	
Totals				6,980	6,175	5,795	5,745	5,445	5,222,550	13,065	285

Appendix 8: South Island Forest District
Table A: Backlog Activities
September 30 1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
Legal Obligations		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	#DIV/0!	9
2	Site preparation	0	0	0	0	0	$0	#DIV/0!	9
3	Planting	0	0	0	0	0	$0	#DIV/0!	9
4	Brushing	0	0	0	0	0	$0	#DIV/0!	9
5	Seed purchase	0	0	0	0	0	$0	#DIV/0!	9
6	Max. density spacing	0	0	0	0	0	$0	#DIV/0!	9
7	Pruning	0	0	0	0	0	$0	#DIV/0!	9
	Totals	0	0	0	0	0	0	#DIV/0!	

Backlog Reforestation

1	Planning/surveys/prescriptions	620	395	320	200	200	$23,545	$38	2
2	Site preparation	0	5	0	0	0	0	#DIV/0!	9
3	Site restoration road/land. rehab	0	0	0	0	0	0	#DIV/0!	9
4	Planting	305	255	215	105	105	431,000	1,413	2
5	Brushing	0	5	5	0	0	0	#DIV/0!	9
6	Seed purchase	5	0	0	0	0	450	90	2
	Totals	930	660	540	305	305	$454,995	$489	

Impeded areas

1	Planning/surveys/prescriptions	6160	4630	4280	3550	3550	$211,355	$34	2
2	Site preparation	0	0	0	0	0	0	#DIV/0!	9
3	Planting	0	0	0	0	0	0	#DIV/0!	9
4	Brushing	910	760	660	570	570	1,032,000	1,134	2
5	Seed purchase	0	0	0	0	0	0	#DIV/0!	9
	Totals	7070	5390	4940	4120	4120	$1,243,355	$176	

Backlog Activities - Management Unit Total

1	Planning/surveys/prescriptions	6780	5025	4600	3750	3750	$234,900	$35	
2	Site preparation	0	5	0	0	0	0	#DIV/0!	
3	Site restoration road/land. rehab	0	0	0	0	0	0	#DIV/0!	
4	Planting	305	255	215	105	105	431,000	1,413	
5	Brushing	910	765	665	570	570	1,032,000	1,134	
6	Seed purchase	5	0	0	0	0	450	90	
7	Max. density spacing	0	0	0	0	0	0	#DIV/0!	
8	Pruning	0	0	0	0	0	0	#DIV/0!	
9	Studies	1	0	0	0	0	6,000	6,000	
	Totals	8001	6050	5480	4425	4425	$1,704,350	$213	

Appendix 8: South Island Forest District
Table B: Stand Tending Activities
September 30 1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	8790	5540	4820	4815	4200	$247,750	$28	2
2	Spacing	540	550	690	690	690	835,900	1,548	3
3	Pruning	300	300	350	350	350	450,000	1,500	3
4	Fertilizing	3500	3400	1700	1700	1400	895,000	256	1
5	Studies	1	1	1	1	1	7,500	7,500	3
6	Other	150	100	100	100	100	345,000	2,300	3
	Totals	13281	9891	7661	7656	6741	2781150	$209	

Appendix 8: South Island Forest District
Table C: Forest Health Enhancement Activities
September 30 1999

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Site rehab	5	5	5	5	5	$10,000	$2,000	2
2 Spacing	0	0	0	0	0	0	0	9
3 Pruning	100	180	180	140	140	61,600	616	2
4 Studies	0	0	0	0	0	0	0	9
5 Others	0	0	0	0	0	0	0	9
Totals	105	185	185	145	145	$71,600	$682	

Appendix 8: South Island Forest District
Table D: Forest Health Maintenance Activities
September 30 1999

	Activities	Units	Five-year Plan Goals (ha)					Annual Plan 2000/01		
			2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Ground Surveys	ha	0	0	0	0	0	$0	$0	0
2	Aerial Surveys	hours of flying time	10	10	10	10	10	10,000	1,000	2
3	Fall and burn treatment	trees	0	0	0	0	0	0	0	9
4	MSMA treatment	trees	0	0	0	0	0	0	0	9
5	Pheromone baiting	trees	100	100	100	100	100	3,000	30	2
6	Defoliator spraying	ha	0	0	0	0	0	0	#DIV/0!	9
7	Studies	number	0	0	0	0	0		0	9
8	Other		0	0	0	0	0	0	0	9
	Totals		110	110	110	110	110	$13,000	$118	

Appendix 8: South Island Forest District
Table E: Current Fire and Pest Activities
September 30 1999

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	8	8	8	8	8	$1,200	$150	3
2 Site preparation	0	0	0	0	0	0	#DIV/0!	9
3 Planting	8	8	8	8	8	12,000	1,500	3
4 Brushing	2	2	2	2	2	2,400	1,200	3
5 Max. density spacing	0	0	0	0	0	0	0	9
6 Studies	0	0	0	0	0	0	0	9
7 Other	0	0	0	0	0	0	0	9
Totals	$18	$18	$18	$18	$18	$15,600	$867	

Appendix 8: South Island Forest District
Table F: Habitat Supply Activities
September 30 1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	#DIV/0!	0
2 Site preparation	0	0	0	0	0	0	0	0
3 Planting	0	0	0	0	0	0	0	0
4 Brushing	0	0	0	0	0	0	0	0
5 Spacing	0	0	0	0	0	0	#DIV/0!	0
6 Pruning	0	0	0	0	0	0	#DIV/0!	0
7 Studies	0	0	0	0	0	0	0	0
8 Others	0	0	0	0	0	0	0	0
Totals	0	0	0	0	0	$0	$0	

See MELP Tables for Summaries

Appendix 8: South Island Forest District
Summary Table
September 30 1999

Table Totals	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	8,001	6,050	5,480	4,425	4,425	1,704,350	213	
Table B: Stand Tending Activities	13,281	9,891	7,661	7,656	6,741	2,781,150	209	
Table C: Forest Health Enhancement Activities	105	185	185	145	145	71,600	682	
Table D: Forest Health Maintenance Activities	110	110	110	110	110	13,000	118	
Table E: Current Fire and Pest Activities	18	18	18	18	18	15,600	867	
Table F: Habitat Supply Activities	0	0	0	0	0	0	0	
Totals of all tables	21,515	16,254	13,454	12,354	11,439	4,585,700	213	

Activities Sorted by Priority (Ctl-e)

Management Unit	Table and category			Activity		Five-Year Plan Goals (ha)					Annual Plan 2000/01			
						2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority	Regional Priority
Appendix 8: South Island Forest District	A	Backlog	Legal	1	Planning/surveys/presc.	0	0	0	0	0	0	#DIV/0!	9	0
Appendix 8: South Island Forest District	A	Backlog	Legal	2	Site preparation	0	0	0	0	0	0	#DIV/0!	9	0
Appendix 8: South Island Forest District	A	Backlog	Legal	3	Planting	0	0	0	0	0	0	#DIV/0!	9	0
Appendix 8: South Island Forest District	A	Backlog	Legal	4	Brushing	0	0	0	0	0	0	#DIV/0!	9	0
Appendix 8: South Island Forest District	A	Backlog	Legal	5	Seed Purchase	0	0	0	0	0	0	#DIV/0!	9	0
Appendix 8: South Island Forest District	A	Backlog	Legal	6	Max. density spacing	0	0	0	0	0	0	#DIV/0!	9	0
Appendix 8: South Island Forest District	A	Backlog	Legal	7	Pruning	0	0	0	0	0	0	#DIV/0!	9	0
Appendix 8: South Island Forest District	A	Backlog	Backlog	1	Planning/surveys/presc.	620	395	320	200	200	23,545	38	2	0
Appendix 8: South Island Forest District	A	Backlog	Backlog	2	Site preparation	0	5	0	0	0	0	#DIV/0!	9	0
Appendix 8: South Island Forest District	A	Backlog	Backlog	3	Site Restoration Road/land	0	0	0	0	0	0	#DIV/0!	9	0
Appendix 8: South Island Forest District	A	Backlog	Backlog	4	Planting	305	255	215	105	105	431,000	1,413	2	0
Appendix 8: South Island Forest District	A	Backlog	Backlog	5	Brushing	0	5	5	0	0	0	#DIV/0!	9	0
Appendix 8: South Island Forest District	A	Backlog	Backlog	6	Seed Purchase	5	0	0	0	0	450	90	2	0
Appendix 8: South Island Forest District	A	Backlog	Impeded	1	Planning/surveys/presc.	6,160	4,630	4,280	3,550	3,550	211,355	34	2	0
Appendix 8: South Island Forest District	A	Backlog	Impeded	2	Site preparation	0	0	0	0	0	0	#DIV/0!	9	0
Appendix 8: South Island Forest District	A	Backlog	Impeded	3	Planting	0	0	0	0	0	0	#DIV/0!	9	0
Appendix 8: South Island Forest District	A	Backlog	Impeded	4	Brushing	910	760	660	570	570	1,032,000	1,134	2	0
Appendix 8: South Island Forest District	A	Backlog	Impeded	5	Seed Purchase	0	0	0	0	0	0	#DIV/0!	9	0
Appendix 8: South Island Forest District	A	Backlog	Total	7	Studies	1	0	0	0	0	6,000	6,000	0	0
Appendix 8: South Island Forest District	B	Stand Tending		1	Planning/surveys/presc.	8,790	5,540	4,820	4,815	4,200	247,750	28	2	0
Appendix 8: South Island Forest District	B	Stand Tending		2	Spacing	540	550	690	690	690	835,900	1,548	3	0
Appendix 8: South Island Forest District	B	Stand Tending		3	Pruning	300	300	350	350	350	450,000	1,500	3	0
Appendix 8: South Island Forest District	B	Stand Tending		4	Fertilizing	3,500	3,400	1,700	1,700	1,400	895,000	256	1	0
Appendix 8: South Island Forest District	B	Stand Tending		5	Studies	1	1	1	1	1	7,500	7,500	3	0
Appendix 8: South Island Forest District	B	Stand Tending		6	Other	150	100	100	100	100	345,000	2,300	3	0
Appendix 8: South Island Forest District	C	F. H. Enhancement		1	Site rehab	5	5	5	5	5	10,000	2,000	2	0
Appendix 8: South Island Forest District	C	F. H. Enhancement		2	Spacing	0	0	0	0	0	0	0	9	0
Appendix 8: South Island Forest District	C	F. H. Enhancement		3	Pruning	100	180	180	140	140	61,600	616	2	0

Appendix 8: South Island Forest District	C	F. H. Enhancement	4	Studies	0	0	0	0	0	0	0	9	0
Appendix 8: South Island Forest District	C	F. H. Enhancement	5	Others	0	0	0	0	0	0	0	9	0
Appendix 8: South Island Forest District	D	F. H. Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	0	0	0
Appendix 8: South Island Forest District	D	F. H. Maintenance	2	Aerial Surveys (hours flying	10	10	10	10	10	10,000	1,000	2	0
Appendix 8: South Island Forest District	D	F. H. Maintenance	3	Fall & burn treatment (trees	0	0	0	0	0	0	0	9	0
Appendix 8: South Island Forest District	D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	9	0
Appendix 8: South Island Forest District	D	F. H. Maintenance	5	Pheromone baiting (trees)	100	100	100	100	100	3,000	30	2	0
Appendix 8: South Island Forest District	D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	#DIV/0!	9	0
Appendix 8: South Island Forest District	D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	0	9	0
Appendix 8: South Island Forest District	D	F. H. Maintenance	8	Other	0	0	0	0	0	0	0	9	0
Appendix 8: South Island Forest District	E	Current Fire/Pest	1	Planning/surveys/presc.	8	8	8	8	8	1,200	150	3	0
Appendix 8: South Island Forest District	E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	#DIV/0!	9	0
Appendix 8: South Island Forest District	E	Current Fire/Pest	3	Planting	8	8	8	8	8	12,000	1,500	3	0
Appendix 8: South Island Forest District	E	Current Fire/Pest	4	Brushing	2	2	2	2	2	2,400	1,200	3	0
Appendix 8: South Island Forest District	E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	9	0
Appendix 8: South Island Forest District	E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	9	0
Appendix 8: South Island Forest District	E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	9	0
Appendix 8: South Island Forest District	F	Habitat Supply	1	Planning/surveys/presc.	0	0	0	0	0	0	#DIV/0!	0	0
Appendix 8: South Island Forest District	F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	0	0
Appendix 8: South Island Forest District	F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	0	0
Appendix 8: South Island Forest District	F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	0	0
Appendix 8: South Island Forest District	F	Habitat Supply	5	Spacing	0	0	0	0	0	0	#DIV/0!	0	0
Appendix 8: South Island Forest District	F	Habitat Supply	6	Pruning	0	0	0	0	0	0	#DIV/0!	0	0
Appendix 8: South Island Forest District	F	Habitat Supply	7	Studies	0	0	0	0	0	0	0	0	0
Appendix 8: South Island Forest District	F	Habitat Supply	8	Others	0	0	0	0	0	0	0	0	0
											Check totals:		
	Totals				21,515	16,254	13,454	12,354	11,439	4,585,700	#DIV/0!	267	

Campbell River Forest District
Table A: Backlog Activities
30 september, 1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
Legal Obligations		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	2729	1340	725	375	75	$115,252	$42	1
2	Site preparation	140	35	35	35	35	114,520	818	4
3	Planting	5	5	5	5	3	3,000	600	3
4	Brushing	0	20	20	0	0	0	#DIV/0!	9
5	Seed purchase	5	5	5	5	5	500	100	3
6	Max. density spacing	0	0	0	0	0	0	#DIV/0!	9
7	Pruning	0	0	0	0	0	0	#DIV/0!	9
	Totals	2879	1405	790	420	118	233272	$81	

Backlog Reforestation

1	Planning/surveys/prescriptions	898	815	500	250	0	$32,900	$37	2
2	Site preparation	0	10	10	0	0	0	#DIV/0!	9
3	Site restoration road/land. rehab	2	2	2	2	2	75,000	37,500	1
4	Planting	25	35	25	10	5	25,000	1,000	2
5	Brushing	50	10	10	10	10	75,000	1,500	1
6	Seed purchase	10	10	0	0	0	700	70	3
	Totals	985	882	547	272	17	$208,600	$212	

Impeded areas

1	Planning/surveys/prescriptions	2562	2415	2365	2165	1815	$112,600	$44	1
2	Site preparation	0	0	0	0	0	0	#DIV/0!	9
3	Planting	0	0	0	0	0	0	#DIV/0!	9
4	Brushing	238	270	250	115	115	343,600	1,444	2
5	Seed purchase	0	0	0	0	0	0	#DIV/0!	9
	Totals	2800	2685	2615	2280	1930	$456,200	$163	

Backlog Activities - Management Unit Total

1	Planning/surveys/prescriptions	6189	4570	3590	2790	1890	$260,752	$42	
2	Site preparation	140	45	45	35	35	114,520	818	
3	Site restoration road/land. rehab	2	2	2	2	2	75,000	37,500	
4	Planting	30	40	30	15	8	28,000	933	
5	Brushing	288	300	280	125	125	418,600	1,453	
6	Seed purchase	15	15	5	5	5	1,200	80	
7	Max. density spacing	0	0	0	0	0	0	#DIV/0!	
8	Pruning	0	0	0	0	0	0	#DIV/0!	
9	Studies	1	1	0	1	0	6,000	6,000	
	Totals	6665	4973	3952	2973	2065	$904,072	$136	

6/22/2005

Campbell River Forest District
Table B: Stand Tending Activities
30 september, 1999

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	7000	6300	6300	6400	6400	$370,000	$53	2,1,1,1,2,**2**
2 Spacing	1233	1330	1330	1350	1520	2,678,000	2,172	3,1,3,2,3,**3**
3 Pruning	630	655	655	655	695	1,735,000	2,754	4,1,3,1,1,**3**
4 Fertilizing	5048	4230	4830	4840	5340	1,589,000	315	1,1,1,1,1,2,**1**
5 Studies	116	17	16	16	16	131,000	1,129	1,2,**2**
6 Other	0	0	0	0	0	0	#DIV/0!	0
Totals	14027	12532	13131	13261	13971	6503000	$464	

Campbell River Forest District
Table C: Forest Health Enhancement Activities
30 september, 1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Site rehab	0	0	0	0	0	$0	#DIV/0!	9
2 Spacing	0	0	0	0	0	0	#DIV/0!	9
3 Pruning	0	0	0	0	0	0	#DIV/0!	9
4 Studies	0	0	0	0	0	0	#DIV/0!	9
5 Others	20	20	0	0	0	20,000	1,000	3
Totals	20	20	0	0	0	$20,000	$1,000	

Campbell River Forest District
Table D: Forest Health Maintenance Activities
30 september, 1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	**Units**	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Ground Surveys	ha	0	0	0	0	0	$0	#DIV/0!	0
2 Aerial Surveys	hours of flying time	11	11	11	11	11	13,000	1,182	1,1,1
3 Fall and burn treatment	trees	0	0	0	0	0	0	#DIV/0!	9
4 MSMA treatment	trees	0	0	0	0	0	0	#DIV/0!	9
5 Pheromone baiting	trees	50	50	50	50	50	2,000	40	2
6 Defoliator spraying	ha	0	0	0	0	0	0	#DIV/0!	9
7 Studies	number	0	0	0	0	0	0	#DIV/0!	9
8 Other		0	0	0	0	0	0	#DIV/0!	0
Totals		61	61	61	61	61	$15,000	$246	

Campbell River Forest District
Table E: Current Fire and Pest Activities
30 september, 1999

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	1	1	1	1	1	$150	$150	1
2 Site preparation	0	0	0	0	0	0	#DIV/0!	9
3 Planting	1	1	1	1	1	1,500	1,500	1
4 Brushing	0	0	0	0	0	0	#DIV/0!	9
5 Max. density spacing	0	0	0	0	0	0	#DIV/0!	9
6 Studies	0	0	0	0	0	0	#DIV/0!	9
7 Other	0	0	0	0	0	0	#DIV/0!	9
Totals	$2	$2	$2	$2	$2	$1,650	$825	

Campbell River Forest District
Table F: Habitat Supply Activities
30 september, 1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	#DIV/0!	0
2 Site preparation	0	0	0	0	0	0	#DIV/0!	0
3 Planting	0	0	0	0	0	0	#DIV/0!	0
4 Brushing	0	0	0	0	0	0	#DIV/0!	0
5 Spacing	0	0	0	0	0	0	#DIV/0!	0
6 Pruning	0	0	0	0	0	0	#DIV/0!	0
7 Studies	0	0	0	0	0	0	#DIV/0!	0
8 Others	0	0	0	0	0	0	#DIV/0!	0
Totals	0	0	0	0	0	$0	#DIV/0!	

See MELP Tables for activity summaries

Campbell River Forest District
Summary Table
30 september, 1999

	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
Table Totals	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	6,665	4,973	3,952	2,973	2,065	904,072	136	
Table B: Stand Tending Activities	14,027	12,532	13,131	13,261	13,971	6,503,000	464	
Table C: Forest Health Enhancement Activities	20	20	0	0	0	20,000	1,000	
Table D: Forest Health Maintenance Activities	61	61	61	61	61	15,000	246	
Table E: Current Fire and Pest Activities	2	2	2	2	2	1,650	825	
Table F: Habitat Supply Activities	0	0	0	0	0	0	#DIV/0!	
Totals of all tables	20,775	17,588	17,146	16,297	16,099	7,443,722	358	

Activities Sorted by Priority (Ctl-e)

					Five-Year Plan Goals (ha)					Annual Plan 2000/01		
Table and category			**Activity**		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority
A	Backlog	Legal	1	Planning/surveys/presc.	2,729	1,340	725	375	75	115,252	42	1
A	Backlog	Legal	2	Site preparation	140	35	35	35	35	114,520	818	4
A	Backlog	Legal	3	Planting	5	5	5	5	3	3,000	600	3
A	Backlog	Legal	4	Brushing	0	20	20	0	0	0	#DIV/0!	9
A	Backlog	Legal	5	Seed Purchase	5	5	5	5	5	500	100	3
A	Backlog	Legal	6	Max. density spacing	0	0	0	0	0	0	#DIV/0!	9
A	Backlog	Legal	7	Pruning	0	0	0	0	0	0	#DIV/0!	9
A	Backlog	Backlog	1	Planning/surveys/presc.	898	815	500	250	0	32,900	37	2
A	Backlog	Backlog	2	Site preparation	0	10	10	0	0	0	#DIV/0!	9
A	Backlog	Backlog	3	Site Restoration Road/land.	2	2	2	2	2	75,000	37,500	1
A	Backlog	Backlog	4	Planting	25	35	25	10	5	25,000	1,000	2
A	Backlog	Backlog	5	Brushing	50	10	10	10	10	75,000	1,500	1
A	Backlog	Backlog	6	Seed Purchase	10	10	0	0	0	700	70	3
A	Backlog	Impeded	1	Planning/surveys/presc.	2,562	2,415	2,365	2,165	1,815	112,600	44	1

Table Totals

					Five-Year Plan Goals (ha)					Annual Plan 2000/01		
					2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
A	Backlog	Impeded	2	Site preparation	0	0	0	0	0	0	#DIV/0!	9
A	Backlog	Impeded	3	Planting	0	0	0	0	0	0	#DIV/0!	9
A	Backlog	Impeded	4	Brushing	238	270	250	115	115	343,600	1,444	2
A	Backlog	Impeded	5	Seed Purchase	0	0	0	0	0	0	#DIV/0!	9
A	Backlog	Total	7	Studies	1	1	0	1	0	6,000	6,000	0
B	Stand Tending		1	Planning/surveys/presc.	7,000	6,300	6,300	6,400	6,400	370,000	53	2,1,1,1,2,2
B	Stand Tending		2	Spacing	1,233	1,330	1,330	1,350	1,520	2,678,000	2,172	3,1,3,2,3,3
B	Stand Tending		3	Pruning	630	655	655	655	695	1,735,000	2,754	4,1,3,1,1,3
B	Stand Tending		4	Fertilizing	5,048	4,230	4,830	4,840	5,340	1,589,000	315	1,1,1,1,1,2,1
B	Stand Tending		5	Studies	116	17	16	16	16	131,000	1,129	1,2,2
B	Stand Tending		6	Other	0	0	0	0	0	0	#DIV/0!	0
C	F. H. Enhancement		1	Site rehab	0	0	0	0	0	0	#DIV/0!	9
C	F. H. Enhancement		2	Spacing	0	0	0	0	0	0	#DIV/0!	9
C	F. H. Enhancement		3	Pruning	0	0	0	0	0	0	#DIV/0!	9
C	F. H. Enhancement		4	Studies	0	0	0	0	0	0	#DIV/0!	9
C	F. H. Enhancement		5	Others	20	20	0	0	0	20,000	1,000	3
D	F. H. Maintenance		1	Ground Surveys (ha)	0	0	0	0	0	0	#DIV/0!	0
D	F. H. Maintenance		2	Aerial Surveys (hours flying	11	11	11	11	11	13,000	1,182	1,1,1
D	F. H. Maintenance		3	Fall & burn treatment (trees	0	0	0	0	0	0	#DIV/0!	9
D	F. H. Maintenance		4	MSMA treatment (trees)	0	0	0	0	0	0	#DIV/0!	9
D	F. H. Maintenance		5	Pheromone baiting (trees)	50	50	50	50	50	2,000	40	2
D	F. H. Maintenance		6	Defoliator spraying (ha)	0	0	0	0	0	0	#DIV/0!	9
D	F. H. Maintenance		7	Studies (number)	0	0	0	0	0	0	#DIV/0!	9
D	F. H. Maintenance		8	Other	0	0	0	0	0	0	#DIV/0!	0
E	Current Fire/Pest		1	Planning/surveys/presc.	1	1	1	1	1	150	150	1
E	Current Fire/Pest		2	Site preparation	0	0	0	0	0	0	#DIV/0!	9
E	Current Fire/Pest		3	Planting	1	1	1	1	1	1,500	1,500	1
E	Current Fire/Pest		4	Brushing	0	0	0	0	0	0	#DIV/0!	9
E	Current Fire/Pest		5	Max. density spacing	0	0	0	0	0	0	#DIV/0!	9
E	Current Fire/Pest		6	Studies	0	0	0	0	0	0	#DIV/0!	9
E	Current Fire/Pest		7	Other	0	0	0	0	0	0	#DIV/0!	9
F	Habitat Supply		1	Planning/surveys/presc.	0	0	0	0	0	0	#DIV/0!	0
F	Habitat Supply		2	Site preparation	0	0	0	0	0	0	#DIV/0!	0
F	Habitat Supply		3	Planting	0	0	0	0	0	0	#DIV/0!	0
F	Habitat Supply		4	Brushing	0	0	0	0	0	0	#DIV/0!	0

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
F	Habitat Supply	5	Spacing	0	0	0	0	0	0	#DIV/0!	0
F	Habitat Supply	6	Pruning	0	0	0	0	0	0	#DIV/0!	0
F	Habitat Supply	7	Studies	0	0	0	0	0	0	#DIV/0!	0
F	Habitat Supply	8	Others	0	0	0	0	0	0	#DIV/0!	0
										Check totals:	
Totals				20,775	17,588	17,146	16,297	16,099	7,443,722	#DIV/0!	210

Campbell River Forest District, Strathcona TSA
Table A: Backlog Activities
August 27,1999

Legal Obligations

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	9
2 Site preparation	0	0	0	0	0	$0	0	9
3 Planting	0	0	0	0	0	$0	0	9
4 Brushing	0	0	0	0	0	$0	0	9
5 Seed purchase	0	0	0	0	0	$0	0	9
6 Max. density spacing	0	0	0	0	0	$0	0	9
7 Pruning	0	0	0	0	0	$0	0	9
Totals	0	0	0	0	0	0	#DIV/0!	

Backlog Reforestation

	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	9
2 Site preparation	0	0	0	0	0	$0	0	9
3 Site restoration road/land. rehab	0	0	0	0	0	$0	0	9
4 Planting	0	0	0	0	0	$0	0	9
5 Brushing	0	0	0	0	0	$0	0	9
6 Seed purchase	0	0	0	0	0	$0	0	9
Totals	0	0	0	0	0	$0	#DIV/0!	

Impeded areas

	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	500	500	500	500	500	$32,500	$65	1
2 Site preparation	0	0	0	0	0	$0	0	9
3 Planting	0	0	0	0	0	$0	0	9
4 Brushing	100	100	100	0	0	$200,000	2,000	2
5 Seed purchase	0	0	0	0	0	$0	0	9
Totals	600	600	600	500	500	$232,500	$388	

Backlog Activities - Management Unit Total

	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	500	500	500	500	500	$32,500	$65	
2 Site preparation	0	0	0	0	0	0	#DIV/0!	
3 Site restoration road/land. rehab	0	0	0	0	0	0	#DIV/0!	
4 Planting	0	0	0	0	0	0	#DIV/0!	
5 Brushing	100	100	100	0	0	200,000	2,000	
6 Seed purchase	0	0	0	0	0	0	#DIV/0!	
7 Max. density spacing	0	0	0	0	0	0	#DIV/0!	
8 Pruning	0	0	0	0	0	0	#DIV/0!	
9 Studies	0	0	0	0	0	0	0	9
Totals	600	600	600	500	500	$232,500	$387	

Campbell River Forest District, Strathcona TSA
Table B: Stand Tending Activities
August 27,1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	3500	3500	3500	3500	3500	$227,500	$65	1
2 Spacing	750	750	750	750	750	$1,800,000	2,400	2
3 Pruning	250	250	250	250	250	$750,000	3,000	4
4 Fertilizing	1500	1500	1500	1500	1500	$450,000	300	1
5 Studies	2	2	2	2	2	$10,000	5,000	5
6 Other	0	0	0	0	0	$0	0	9
Totals	6002	6002	6002	6002	6002	3237500	$539	

Campbell River Forest District, Strathcona TSA
Table C: Forest Health Enhancement Activities
August 27,1999

Activities		Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Site rehab	0	0	0	0	0	$0	$0	9
2	Spacing	0	0	0	0	0	$0	0	9
3	Pruning	0	0	0	0	0	$0	0	9
4	Studies	0	0	0	0	0	$0	0	9
5	Others	0	0	0	0	0	$0	0	9
	Totals	0	0	0	0	0	$0	#DIV/0!	

Campbell River Forest District, Strathcona TSA
Table D: Forest Health Maintenance Activities
August 27,1999

	Activities	Units	Five-year Plan Goals (ha)					Annual Plan 2000/01		
			2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Ground Surveys	ha	0	0	0	0	0	$0	$0	9
2	Aerial Surveys	hours of flying time	0	0	0	0	0	$0	0	9
3	Fall and burn treatment	trees	0	0	0	0	0	$0	0	9
4	MSMA treatment	trees	0	0	0	0	0	$0	0	9
5	Pheromone baiting	trees	50	50	50	50	50	$2,000	40	2
6	Defoliator spraying	ha	0	0	0	0	0	$0	0	9
7	Studies	number	0	0	0	0	0	$0	0	9
8	Other		0	0	0	0	0	$0	0	9
	Totals		50	50	50	50	50	$2,000	$40	

Campbell River Forest District, Strathcona TSA
Table E: Current Fire and Pest Activities
August 27,1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	9
2	Site preparation	0	0	0	0	0	$0	0	9
3	Planting	0	0	0	0	0	$0	0	9
4	Brushing	0	0	0	0	0	$0	0	9
5	Max. density spacing	0	0	0	0	0	$0	0	9
6	Studies	0	0	0	0	0	$0	0	9
7	Other	0	0	0	0	0	$0	0	9
	Totals	$0	$0	$0	$0	$0	$0	#DIV/0!	

Campbell River Forest District, Strathcona TSA
Table F: Habitat Supply Activities
August 27,1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	75	75	75	75	75	$5,625	$75	5
2 Site preparation	0	0	0	0	0	$0	0	9
3 Planting	0	0	0	0	0	$0	0	9
4 Brushing	25	25	25	25	25	$50,000	2,000	5
5 Spacing	25	25	25	25	25	$60,000	2,400	5
6 Pruning	0	0	0	0	0	$0	0	9
7 Studies	0	0	0	0	0	$0	0	9
8 Others	0	0	0	0	0	$0	0	9
Totals	125	125	125	125	125	$115,625	$925	

Campbell River Forest District, Strathcona TSA
Summary Table
August 27,1999

	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
Table Totals	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	600	600	600	500	500	232,500	387	
Table B: Stand Tending Activities	6,002	6,002	6,002	6,002	6,002	3,237,500	539	
Table C: Forest Health Enhancement Activities	0	0	0	0	0	0	#DIV/0!	
Table D: Forest Health Maintenance Activities	50	50	50	50	50	2,000	40	
Table E: Current Fire and Pest Activities	0	0	0	0	0	0	#DIV/0!	
Table F: Habitat Supply Activities	125	125	125	125	125	115,625	925	
Totals of all tables	6,777	6,777	6,777	6,677	6,677	3,587,625	529	

Activities Sorted by Priority (Ctl-e)

					Five-Year Plan Goals (ha)					Annual Plan 2000/01			
Management Unit	**Table and category**		**Activity**		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority	Regional Priority
Campbell River Forest District, Strathcona	A	Backlog Impeded	1	Planning/surveys/presc.	500	500	500	500	500	32,500	65	1	0
Campbell River Forest District, Strathcona	B	Stand Tending	1	Planning/surveys/presc.	3,500	3,500	3,500	3,500	3,500	227,500	65	1	0
Campbell River Forest District, Strathcona	B	Stand Tending	4	Fertilizing	1,500	1,500	1,500	1,500	1,500	450,000	300	1	0
Campbell River Forest District, Strathcona	A	Backlog Impeded	4	Brushing	100	100	100	0	0	200,000	2,000	2	0
Campbell River Forest District, Strathcona	B	Stand Tending	2	Spacing	750	750	750	750	750	1,800,000	2,400	2	0
Campbell River Forest District, Strathcona	D	F. H. Maintenance	5	Pheromone baiting (trees)	50	50	50	50	50	2,000	40	2	0
Campbell River Forest District, Strathcona	B	Stand Tending	3	Pruning	250	250	250	250	250	750,000	3,000	4	0
Campbell River Forest District, Strathcona	B	Stand Tending	5	Studies	2	2	2	2	2	10,000	5,000	5	0
Campbell River Forest District, Strathcona	F	Habitat Supply	1	Planning/surveys/presc.	75	75	75	75	75	5,625	75	5	0
Campbell River Forest District, Strathcona	F	Habitat Supply	4	Brushing	25	25	25	25	25	50,000	2,000	5	0
Campbell River Forest District, Strathcona	F	Habitat Supply	5	Spacing	25	25	25	25	25	60,000	2,400	5	0
Campbell River Forest District, Strathcona	A	Backlog Legal	1	Planning/surveys/presc.	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	A	Backlog Legal	2	Site preparation	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	A	Backlog Legal	3	Planting	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	A	Backlog Legal	4	Brushing	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	A	Backlog Legal	5	Seed Purchase	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	A	Backlog Legal	6	Max. density spacing	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	A	Backlog Legal	7	Pruning	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	A	Backlog Backlog	1	Planning/surveys/presc.	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	A	Backlog Backlog	2	Site preparation	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	A	Backlog Backlog	3	Site Restoration Road/land	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	A	Backlog Backlog	4	Planting	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	A	Backlog Backlog	5	Brushing	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	A	Backlog Backlog	6	Seed Purchase	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	A	Backlog Impeded	2	Site preparation	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	A	Backlog Impeded	3	Planting	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	A	Backlog Impeded	5	Seed Purchase	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	A	Backlog Total	7	Studies	0	0	0	0	0	0	0	9	0

Campbell River Forest District, Strathcona	B	Stand Tending	6	Other	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	C	F. H. Enhancement	1	Site rehab	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	C	F. H. Enhancement	2	Spacing	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	C	F. H. Enhancement	3	Pruning	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	C	F. H. Enhancement	4	Studies	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	C	F. H. Enhancement	5	Others	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	D	F. H. Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	D	F. H. Maintenance	2	Aerial Surveys (hours flying)	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	D	F. H. Maintenance	3	Fall & burn treatment (trees	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	D	F. H. Maintenance	8	Other	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	E	Current Fire/Pest	1	Planning/surveys/presc.	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	E	Current Fire/Pest	3	Planting	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	E	Current Fire/Pest	4	Brushing	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	F	Habitat Supply	6	Pruning	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	F	Habitat Supply	7	Studies	0	0	0	0	0	0	0	9	0
Campbell River Forest District, Strathcona	F	Habitat Supply	8	Others	0	0	0	0	0	0	0	9	0
											Check totals:		
	Totals				6,777	6,777	6,777	6,677	6,677	3,587,625	17,345	411	

Arrowsmith TSA
Table A: Backlog Activities
Prepared: August 10th, 1999

Legal Obligations

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	9
2	Site preparation	0	0	0	0	0	0	0	9
3	Planting	0	0	0	0	0	0	0	9
4	Brushing	0	0	0	0	0	0	0	9
5	Seed purchase	0	0	0	0	0	0	0	9
6	Max. density spacing	0	0	0	0	0	0	0	9
7	Pruning	0	0	0	0	0	0	0	9
	Totals	0	0	0	0	0	0	$0	

Backlog Reforestation

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	100	100	100	100	100	$3,300	$33	1
2	Site preparation	0	0	0	0	0	$0		9
3	Site restoration road/land. rehab	0	0	0	0	0	$0		9
4	Planting	10	10	5	5	5	$25,000	$2,500	1
5	Brushing						$0		9
6	Seed purchase	0	0	0	0	0	$0		9
	Totals	110	110	105	105	105	$28,300		

Impeded areas

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	2000	1500	1200	800	800	$64,000	$32	2
2	Site preparation	0	0	0	0	0	$0		9
3	Planting	0	0	0	0	0	$0		9
4	Brushing	300	200	150	100	100	$300,000	$1,000	2
5	Seed purchase	0	0	0	0	0	$0		9
	Totals	2300	1700	1350	900	900	$364,000		

Backlog Activities - Management Unit Total

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005		Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	2100	1600	1300	900	900		$67,300	$32	
2	Site preparation	0	0	0	0	0		0	0	
3	Site restoration road/land. rehab	0	0	0	0	0		0	0	
4	Planting	10	10	5	5	5		25,000	2,500	
5	Brushing	300	200	150	100	100	0	300000	1,000	
6	Seed purchase	0	0	0	0	0		0	0	
7	Max. density spacing	0	0	0	0	0		0	0	
8	Pruning	0	0	0	0	0		0	0	
9	Studies	0	0	0	0	0		0	0	0
	Totals	2410	1810	1455	1005	1005		$392,300	$163	

Arrowsmith TSA
Table B: Stand Tending Activities
Prepared: August 10th, 1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	2000	2000	2000	2000	1500	$78,000	39	2
2 Spacing (>4000SPH)	350	350	350	350	350	$424,900	1,214	1
3 Pruning	250	250	250	250	250	$375,000	1,500	3
4 Fertilizing	1000	1000	1000	1000	500	$250,000	250	2
5 Studies	0	0	0	0	0	$0	0	9
6 Other	0	0	0	0	0	$0	0	9
Totals	3600	3600	3600	3600	2600	$1,127,900	$313	

Arrowsmith TSA
Table C: Forest Health Enhancement Activities
Prepared: August 10th, 1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Site rehab	0	0	0	0	0	$0	$0	9
2 Spacing	0	0	0	0	0	0	0	9
3 Pruning (Pw)	100	180	180	140	100	61,600	616	1
4 Studies	0	0	0	0	0	0	0	9
5 Others	0	0	0	0	0	0	0	9
Totals	100	180	180	140	100	$61,600	$616	

Arrowsmith TSA

Table D: Forest Health Maintenance Activities

Prepared: August 10th, 1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	**Units**	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Ground Surveys	ha	0	0	0	0	0	$0		
2 Aerial Surveys	hours of flying time	7	7	7	7	7	$7,000	$1,000	1
3 Fall and burn treatment	trees	0	0	0	0	0	$0		9
4 MSMA treatment	trees	0	0	0	0	0	$0		9
5 Pheromone baiting	trees	100	100	100	100	100	$3,000	$30	1
6 Defoliator spraying	ha	0	0	0	0	0	$0		9
7 Studies	number	0	0	0	0	0	$0		9
8 Other		0	0	0	0	0	$0		9
Totals		107	107	107	107	107	$10,000	$93	

Arrowsmith TSA
Table E: Current Fire and Pest Activities
Prepared: August 10th, 1999

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01			
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority	
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0		9
2 Site preparation	0	0	0	0	0	0	0		9
3 Planting	0	0	0	0	0	0	0		9
4 Brushing	0	0	0	0	0	0	0		9
5 Max. density spacing	0	0	0	0	0	0	0		9
6 Studies	0	0	0	0	0	0	0		9
7 Other	0	0	0	0	0	0	0		9
Totals	$0	$0	$0	$0	$0	$0	$0		

Arrowsmith TSA
Table F: Habitat Supply Activities
Prepared: August 10th, 1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	40	40	40	40	40	$4,000	$100	3
2 Site preparation	0	0	0	0	0	$0		9
3 Planting	0	0	0	0	0	$0		9
4 Brushing	0	0	0	0	0	$0		9
5 Spacing	10	10	10	10	10	$14,000	$1,400	3
6 Pruning	5	5	5	5	5	$10,000	$2,000	3
7 Studies	0	0	0	0	0	$0		9
8 Others	0	0	0	0	0	$0		9
Totals	55	55	55	55	55	$28,000	$509	

Arrowsmith TSA
Table G: Incremental Reforestation
Prepared: August 10th, 1999

Fill planting

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	
2	0	0	0	0	0	0	0	
3	0	0	0	0	0	0	0	
4	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	
Totals	0	0	0	0	0	0	$0	

Rehabilitation of Poorly Performing Stands

1	0	0	0	0	0	$0	$0
2	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
Totals	0	0	0	0	0	$0	$0

Road, Landing, Hillslope and Riparian Reforestation

1	0	0	0	0	0	$0	$0
2	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
Totals	0	0	0	0	0	$0	$0

Incremental Reforestation - Management Unit Total

0	0	0	0	0	0	$0	0

6/21/2005

Arrowsmith TSA
Summary Table
Prepared: August 10th, 1999

Table Totals	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	2,410	1,810	1,455	1,005	1,005	392,300	163	
Table B: Stand Tending Activities	3,600	3,600	3,600	3,600	2,600	1,127,900	313	
Table C: Forest Health Enhancement Activities	100	180	180	140	100	61,600	616	
Table D: Forest Health Maintenance Activities	107	107	107	107	107	10,000	93	
Table E: Current Fire and Pest Activities	0	0	0	0	0	0	0	
Table F: Habitat Supply Activities	55	55	55	55	55	28,000	509	
Table G: Incremental Reforestation	0	0	0	0	0	0	0	
Totals of all tables	6,272	5,752	5,397	4,907	3,867	1,619,800	1,695	

Table and category			Activity		Five-Year Plan Goals (ha)					Annual Plan 2000/01		
					2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority
A	Backlog	Legal	1	Planning/surveys/presc.	0	0	0	0	0	0	0	9
A	Backlog	Legal	2	Site preparation	0	0	0	0	0	0	0	9
A	Backlog	Legal	3	Planting	0	0	0	0	0	0	0	9
A	Backlog	Legal	4	Brushing	0	0	0	0	0	0	0	9
A	Backlog	Legal	5	Seed Purchase	0	0	0	0	0	0	0	9
A	Backlog	Legal	6	Max. density spacing	0	0	0	0	0	0	0	9
A	Backlog	Legal	7	Pruning	0	0	0	0	0	0	0	9
A	Backlog	Backlog	1	Planning/surveys/presc.	100	100	100	100	100	3,300	33	1
A	Backlog	Backlog	2	Site preparation	0	0	0	0	0	0	0	9
A	Backlog	Backlog	3	Site Restoration Road/land.	0	0	0	0	0	0	0	9
A	Backlog	Backlog	4	Planting	10	10	5	5	5	25,000	2,500	1
A	Backlog	Backlog	5	Brushing	0	0	0	0	0	0	0	9
A	Backlog	Backlog	6	Seed Purchase	0	0	0	0	0	0	0	9
A	Backlog	Impeded	1	Planning/surveys/presc.	2,000	1,500	1,200	800	800	64,000	32	2
A	Backlog	Impeded	2	Site preparation	0	0	0	0	0	0	0	9
A	Backlog	Impeded	3	Planting	0	0	0	0	0	0	0	9
A	Backlog	Impeded	4	Brushing	300	200	150	100	100	300,000	1,000	2
A	Backlog	Impeded	5	Seed Purchase	0	0	0	0	0	0	0	9
A	Backlog	Total	7	Studies	0	0	0	0	0	0	0	0
B	Stand Tending		1	Planning/surveys/presc.	2,000	2,000	2,000	2,000	1,500	78,000	39	2

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
B	Stand Tending	2	Spacing	350	350	350	350	350	424,900	1,214	1
B	Stand Tending	3	Pruning	250	250	250	250	250	375,000	1,500	3
B	Stand Tending	4	Fertilizing	1,000	1,000	1,000	1,000	500	250,000	250	2
B	Stand Tending	5	Studies	0	0	0	0	0	0	0	9
B	Stand Tending	6	Other	0	0	0	0	0	0	0	9
C	FH Enhancement	1	Site rehab	0	0	0	0	0	0	0	9
C	FH Enhancement	2	Spacing	0	0	0	0	0	0	0	9
C	FH Enhancement	3	Pruning	100	180	180	140	100	61,600	616	1
C	FH Enhancement	4	Studies	0	0	0	0	0	0	0	9
C	FH Enhancement	5	Others	0	0	0	0	0	0	0	9
D	FH Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	0	0
D	FH Maintenance	2	Aerial Surveys (hours flying	7	7	7	7	7	7,000	1,000	1
D	FH Maintenance	3	Fall & burn treatment (trees	0	0	0	0	0	0	0	9
D	FH Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	9
D	FH Maintenance	5	Pheromone baiting (trees)	100	100	100	100	100	3,000	30	1
D	FH Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	9
D	FH Maintenance	7	Studies (number)	0	0	0	0	0	0	0	9
D	FH Maintenance	8	Other	0	0	0	0	0	0	0	9
E	Current Fire/Pest	1	Planning/surveys/presc.	0	0	0	0	0	0	0	9
E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	0	9
E	Current Fire/Pest	3	Planting	0	0	0	0	0	0	0	9
E	Current Fire/Pest	4	Brushing	0	0	0	0	0	0	0	9
E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	9
E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	9
E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	9
F	Habitat Supply	1	Planning/surveys/presc.	40	40	40	40	40	4,000	100	3
F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	9
F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	9
F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	9
F	Habitat Supply	5	Spacing	10	10	10	10	10	14,000	1,400	3
F	Habitat Supply	6	Pruning	5	5	5	5	5	10,000	2,000	3
F	Habitat Supply	7	Studies	0	0	0	0	0	0	0	9
F	Habitat Supply	8	Others	0	0	0	0	0	0	0	9
G	Incremental Reforestation			0	0	0	0	0	0	0	0
	Totals			6,272	5,752	5,397	4,907	3,867	$1,619,800		

Port McNeill Forest District
Table A: Backlog Activities
September 30 1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Legal Obligations									
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	#DIV/0!	9
2	Site preparation	0	0	0	0	0	$0	#DIV/0!	9
3	Planting	0	0	0	0	0	$0	#DIV/0!	9
4	Brushing	0	0	0	0	0	$0	#DIV/0!	9
5	Seed purchase	0	0	0	0	0	$0	#DIV/0!	9
6	Max. density spacing	0	0	0	0	0	0	#DIV/0!	9
7	Pruning	0	0	0	0	0	0	0	9
	Totals	0	0	0	0	0	0	$0	
Backlog Reforestation									
1	Planning/surveys/prescriptions	2800	2750	2600	2500	2500	$91,500	$33	2
2	Site preparation	100	55	5	0	0	100,000	1,000	3
3	Site restoration road/land. rehab	0	0	0	0	0	0	0	9
4	Planting	205	160	10	5	5	205,000	1,000	2
5	Brushing	100	105	180	155	130	90,000	900	9
6	Seed purchase	5	5	0	0	0	350	70	3
	Totals	3210	3075	2795	2660	2635	$486,850	$152	
Impeded areas									
1	Planning/surveys/prescriptions	2812	2100	1950	1950	950	$118,512	$42	2
2	Site preparation	0	0	0	0	0	0	0	9
3	Planting	21	10	0	0	0	20,900	995	1
4	Brushing	1064	1010	760	760	760	752,400	707	1
5	Seed purchase	0	0	0	0	0	0	0	9
	Totals	3897	3120	2710	2710	1710	$891,812	$229	
Backlog Activities - Management Unit Total									
1	Planning/surveys/prescriptions	5612	4850	4550	4450	3450	$210,012	$37	
2	Site preparation	100	55	5	0	0	100,000	1,000	
3	Site restoration road/land. rehab	0	0	0	0	0	0	0	
4	Planting	226	170	10	5	5	225,900	1,000	
5	Brushing	1164	1115	940	915	890	842,400	724	
6	Seed purchase	5	5	0	0	0	350	70	
7	Max. density spacing	0	0	0	0	0	0	#DIV/0!	
8	Pruning	0	0	0	0	0	0	0	
9	Studies	1	1	1	1	1	4,000	4,000	0
	Totals	7108	6196	5506	5371	4346	$1,382,662	$195	

Port McNeill Forest District
Table B: Stand Tending Activities
September 30 1999

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	1830	3490	3490	3465	3480	$146,450	$80	2
2 Spacing	349	585	575	550	570	724,950	2,077	3
3 Pruning	216	450	450	450	450	490,800	2,272	4
4 Fertilizing	3189	2450	2425	2525	2500	1,422,550	446	1
5 Studies	1	1	1	1	1	8,000	8,000	3
6 Other	75	75	75	75	75	170,000	2,267	3
Totals	5660	7051	7016	7066	7076	2962750	$523	

Port McNeill Forest District
Table C: Forest Health Enhancement Activities
September 30 1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Site rehab	0	0	0	0	0	$0	$0	0
2 Spacing	0	0	0	0	0	0	0	0
3 Pruning	0	0	0	0	0	0	0	0
4 Studies	10	10	10	10	10	30,000	3,000	3
5 Others	0	0	0	0	0	0	0	0
Totals	10	10	10	10	[illegible]	$30,000	$2,999	

Port McNeill Forest District
Table D: Forest Health Maintenance Activities
September 30 1999

			Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	**Units**	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Ground Surveys	ha	0	0	0	0	0	$0	$0	0
2	Aerial Surveys	hours of flying time	9	9	9	9	9	9,000	1,000	1
3	Fall and burn treatment	trees	0	0	0	0	0	0	0	0
4	MSMA treatment	trees	0	0	0	0	0	0	#DIV/0!	0
5	Pheromone baiting	trees	0	0	0	0	0	0	0	0
6	Defoliator spraying	ha	0	0	0	0	0	0	0	0
7	Studies	number	0	0	0	0	0	0	0	0
8	Other		0	0	0	0	0	0	0	0
	Totals	**totals**	9	9	9	9	9	$9,000	$999	

Port McNeill Forest District
Table E: Current Fire and Pest Activities
September 30 1999

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	2	2	2	2	2	$300	$150	4
2 Site preparation	0	0	0	0	0	0	0	0
3 Planting	2	2	2	2	2	3,000	1,500	1
4 Brushing	0	0	0	0	0	0	0	0
5 Max. density spacing	0	0	0	0	0	0	0	0
6 Studies	0	0	0	0	0	0	0	0
7 Other	0	0	0	0	0	0	0	0
Totals	$4	$4	$4	$4	$4	$3,300	$824	

Port McNeill Forest District
Table F: Habitat Supply Activities
September 30 1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	#DIV/0!	0
2 Site preparation	0	0	0	0	0	0	0	0
3 Planting	0	0	0	0	0	0	0	0
4 Brushing	0	0	0	0	0	0	0	0
5 Spacing	0	0	0	0	0	0	#DIV/0!	0
6 Pruning	0	0	0	0	0	0	#DIV/0!	0
7 Studies	0	0	0	0	0	0	0	0
8 Others	0	0	0	0	0	0	0	0
Totals	0	0	0	0	0	$0	$0	

See MELP Tables for activity summaries

Port McNeill Forest District
Summary Table
September 30 1999

Table Totals	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	7,108	6,196	5,506	5,371	4,346	1,382,662	195	
Table B: Stand Tending Activities	5,660	7,051	7,016	7,066	7,076	2,962,750	523	
Table C: Forest Health Enhancement Activities	10	10	10	10	10	30,000	2,999	
Table D: Forest Health Maintenance Activities	9	9	9	9	9	9,000	999	
Table E: Current Fire and Pest Activities	4	4	4	4	4	3,300	824	
Table F: Habitat Supply Activities	0	0	0	0	0	0	0	
Totals of all tables	12,791	13,270	12,545	12,460	11,445	4,387,712	343	

Activities Sorted by Priority (Ctl-e)

Table and category			Activity		Five-Year Plan Goals (ha)					Annual Plan 2000/01		
					2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority
A	Backlog	Legal	1	Planning/surveys/presc.	0	0	0	0	0	0	#DIV/0!	9
A	Backlog	Legal	2	Site preparation	0	0	0	0	0	0	#DIV/0!	9
A	Backlog	Legal	3	Planting	0	0	0	0	0	0	#DIV/0!	9
A	Backlog	Legal	4	Brushing	0	0	0	0	0	0	#DIV/0!	9
A	Backlog	Legal	5	Seed Purchase	0	0	0	0	0	0	#DIV/0!	9
A	Backlog	Legal	6	Max. density spacing	0	0	0	0	0	0	#DIV/0!	9
A	Backlog	Legal	7	Pruning	0	0	0	0	0	0	0	9
A	Backlog	Backlog	1	Planning/surveys/presc.	2,800	2,750	2,600	2,500	2,500	91,500	33	2
A	Backlog	Backlog	2	Site preparation	100	55	5	0	0	100,000	1,000	3
A	Backlog	Backlog	3	Site Restoration Road/land.	0	0	0	0	0	0	0	9
A	Backlog	Backlog	4	Planting	205	160	10	5	5	205,000	1,000	2
A	Backlog	Backlog	5	Brushing	100	105	180	155	130	90,000	900	9
A	Backlog	Backlog	6	Seed Purchase	5	5	0	0	0	350	70	3
A	Backlog	Impeded	1	Planning/surveys/presc.	2,812	2,100	1,950	1,950	950	118,512	42	2

Table Totals				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
A	Backlog Impeded	2	Site preparation	0	0	0	0	0	0	0	9
A	Backlog Impeded	3	Planting	21	10	0	0	0	20,900	995	1
A	Backlog Impeded	4	Brushing	1,064	1,010	760	760	760	752,400	707	1
A	Backlog Impeded	5	Seed Purchase	0	0	0	0	0	0	0	9
A	Backlog Total	7	Studies	1	1	1	1	1	4,000	4,000	0
B	Stand Tending	1	Planning/surveys/presc.	1,830	3,490	3,490	3,465	3,480	146,450	80	2
B	Stand Tending	2	Spacing	349	585	575	550	570	724,950	2,077	3
B	Stand Tending	3	Pruning	216	450	450	450	450	490,800	2,272	4
B	Stand Tending	4	Fertilizing	3,189	2,450	2,425	2,525	2,500	1,422,550	446	1
B	Stand Tending	5	Studies	1	1	1	1	1	8,000	8,000	3
B	Stand Tending	6	Other	75	75	75	75	75	170,000	2,267	3
C	F. H. Enhancement	1	Site rehab	0	0	0	0	0	0	0	0
C	F. H. Enhancement	2	Spacing	0	0	0	0	0	0	0	0
C	F. H. Enhancement	3	Pruning	0	0	0	0	0	0	0	0
C	F. H. Enhancement	4	Studies	10	10	10	10	10	30,000	3,000	3
C	F. H. Enhancement	5	Others	0	0	0	0	0	0	0	0
D	F. H. Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	2	Aerial Surveys (hours flying)	9	9	9	9	9	9,000	1,000	1
D	F. H. Maintenance	3	Fall & burn treatment (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	#DIV/0!	0
D	F. H. Maintenance	5	Pheromone baiting (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	8	Other	0	0	0	0	0	0	0	0
E	Current Fire/Pest	1	Planning/surveys/presc.	2	2	2	2	2	300	150	4
E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	0	0
E	Current Fire/Pest	3	Planting	2	2	2	2	2	3,000	1,500	1
E	Current Fire/Pest	4	Brushing	0	0	0	0	0	0	0	0
E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	0
E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	0
E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	0
F	Habitat Supply	1	Planning/surveys/presc.	0	0	0	0	0	0	#DIV/0!	0
F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	0
F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	0
F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	0

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
F	Habitat Supply	5	Spacing	0	0	0	0	0	0	#DIV/0!	0
F	Habitat Supply	6	Pruning	0	0	0	0	0	0	#DIV/0!	0
F	Habitat Supply	7	Studies	0	0	0	0	0	0	0	0
F	Habitat Supply	8	Others	0	0	0	0	0	0	0	0
										Check totals:	
Totals				12,791	13,270	12,545	12,460	11,445	4,387,712	#DIV/0!	138

Table 1. Port McNeill Forest District (TSA & TFL)
Summary Table
August 31, 1999

Table Totals	Five-Year Plan Goals (ha) 2000/2001	2001/2002	2002/2003	2003/2004	2004/2005	Annual Plan 2000/01 Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	7,107	6,196	5,506	5,371	4,346	1,382,662	195	**3.2**, 7.9, N, 7.7, 6.3, 0.2
Table B: Stand Tending Activities	5,660	7,051	7,016	7,066	7,075	2,962,750	523	**4.2**, 5.3, N, 3.8, 3.8, 1.8
Table C: Forest Health Enhancement Activities	10	10	10	10	10	30,000	3,000	**5.6**, 9.0, N, 9.0, 9.0, N
Table D: Forest Health Maintenance Activities	9	9	9	9	9	9,000	1,000	**5.5**, 9.0, N, 9.0, 8.0, N
Table E: Current Fire and Pest Activities	4	4	4	4	4	3,300	825	**7.0**, 9.0, N, 9.0, 6.7, N
Table F: Habitat Supply Activities	640	506	466	266	265	447,000	698	**7.0**, 6.3, N, 9.0, 5.8, 0.5
Totals of all tables	13,430	13,776	13,011	12,726	11,709	4,834,712	360	

Activities Sorted by Priority (Ctl-e)

Management Unit	Table and category		Activity	Five-Year Plan Goals (ha) 2000/2001	2001/2002	2002/2003	2003/2004	2004/2005	Annual Plan 2000/01 Funding ($000)	Unit Cost ($)	Man. Unit Priority	Regional Priority
Port McNeill Forest District (TSA & TFL)	A	Backlog Legal	1 Planning/surveys/presc	0	0	0	0	0	0	#DIV/0!	5.7	0
Port McNeill Forest District (TSA & TFL)	A	Backlog Legal	2 Site preparation	0	0	0	0	0	0	#DIV/0!	5.7	0
Port McNeill Forest District (TSA & TFL)	A	Backlog Legal	3 Planting	0	0	0	0	0	0	#DIV/0!	5.7	0
Port McNeill Forest District (TSA & TFL)	A	Backlog Legal	4 Brushing	0	0	0	0	0	0	#DIV/0!	5.7	0
Port McNeill Forest District (TSA & TFL)	A	Backlog Legal	5 Seed Purchase	0	0	0	0	0	0	#DIV/0!	5.7	0
Port McNeill Forest District (TSA & TFL)	A	Backlog Legal	6 Max. density spacing	0	0	0	0	0	0	#DIV/0!	5.7	0
Port McNeill Forest District (TSA & TFL)	A	Backlog Legal	7 Pruning	0	0	0	0	0	0	#DIV/0!	5.7	0
Port McNeill Forest District (TSA & TFL)	A	Backlog Backlog	1 Planning/surveys/presc	#REF!	#REF!	#REF!	#REF!	#REF!	91,500	#REF!	2.2	0
Port McNeill Forest District (TSA & TFL)	A	Backlog Backlog	2 Site preparation	#REF!	#REF!	#REF!	#REF!	#REF!	100,000	#REF!	3.7	0
Port McNeill Forest District (TSA & TFL)	A	Backlog Backlog	3 Site Restoration Road/land	#REF!	#REF!	#REF!	#REF!	#REF!	0	#REF!	4.7	0
Port McNeill Forest District (TSA & TFL)	A	Backlog Backlog	4 Planting	#REF!	#REF!	#REF!	#REF!	#REF!	205,000	#REF!	2.3	0
Port McNeill Forest District (TSA & TFL)	A	Backlog Backlog	5 Brushing	#REF!	#REF!	#REF!	#REF!	#REF!	90,000	#REF!	2.3	0
Port McNeill Forest District (TSA & TFL)	A	Backlog Backlog	6 Seed Purchase	5	5	0	0	0	350	70	3.7	0
Port McNeill Forest District (TSA & TFL)	A	Backlog Impeded	1 Planning/surveys/presc	2,812	2,100	1,950	1,950	950	118,512	42	2.7	0
Port McNeill Forest District (TSA & TFL)	A	Backlog Impeded	2 Site preparation	0	0	0	0	0	0	#DIV/0!	4.7	0
Port McNeill Forest District (TSA & TFL)	A	Backlog Impeded	3 Planting	21	10	0	0	0	20,900	995	3.5	0
Port McNeill Forest District (TSA & TFL)	A	Backlog Impeded	4 Brushing	1,064	1,010	760	760	760	752,400	707	2.5	0
Port McNeill Forest District (TSA & TFL)	A	Backlog Impeded	5 Seed Purchase	0	0	0	0	0	0	#DIV/0!	4.7	0
Port McNeill Forest District (TSA & TFL)	A	Backlog Total	7 Studies	0	1	1	1	1	4,000	800,000	3.7	0
Port McNeill Forest District (TSA & TFL)	B	Stand Tending	1 Planning/surveys/presc	1,830	3,490	3,490	3,465	3,480	146,450	80	1.3	0
Port McNeill Forest District (TSA & TFL)	B	Stand Tending	2 Spacing	349	585	575	550	570	724,950	2,077	2.3	0
Port McNeill Forest District (TSA & TFL)	B	Stand Tending	3 Pruning	216	450	450	450	450	490,800	2,272	5.8	0
Port McNeill Forest District (TSA & TFL)	B	Stand Tending	4 Fertilizing	3,189	2,450	2,425	2,525	2,500	1,422,550	446	1.3	0
Port McNeill Forest District (TSA & TFL)	B	Stand Tending	5 Studies	1	1	1	1	0	8,000	8,000	4.5	0
Port McNeill Forest District (TSA & TFL)	B	Stand Tending	6 Other	75	75	75	75	75	170,000	2,267	3.7	0
Port McNeill Forest District (TSA & TFL)	C	F. H. Enhancement	1 Site rehab	0	0	0	0	0	0	#DIV/0!	5.5	0
Port McNeill Forest District (TSA & TFL)	C	F. H. Enhancement	2 Spacing	0	0	0	0	0	0	#DIV/0!	5.5	0
Port McNeill Forest District (TSA & TFL)	C	F. H. Enhancement	3 Pruning	0	0	0	0	0	0	#DIV/0!	5.5	0
Port McNeill Forest District (TSA & TFL)	C	F. H. Enhancement	4 Studies	10	10	10	10	10	30,000	3,000	5.0	0
Port McNeill Forest District (TSA & TFL)	C	F. H. Enhancement	5 Others	0	0	0	0	0	0	#DIV/0!	5.7	0
Port McNeill Forest District (TSA & TFL)	D	F. H. Maintenance	1 Ground Surveys (ha)	0	0	0	0	0	0	#DIV/0!	4.7	0
Port McNeill Forest District (TSA & TFL)	D	F. H. Maintenance	2 Aerial Surveys (hours flying	9	9	9	9	9	9,000	1,000	3.3	0
Port McNeill Forest District (TSA & TFL)	D	F. H. Maintenance	3 Fall & burn treatment (trees	0	0	0	0	0	0	#DIV/0!	5.7	0
Port McNeill Forest District (TSA & TFL)	D	F. H. Maintenance	4 MSMA treatment (trees)	0	0	0	0	0	0	#DIV/0!	5.7	0
Port McNeill Forest District (TSA & TFL)	D	F. H. Maintenance	5 Pheromone baiting (trees)	0	0	0	0	0	0	#DIV/0!	5.7	0
Port McNeill Forest District (TSA & TFL)	D	F. H. Maintenance	6 Defoliator spraying (ha)	0	0	0	0	0	0	#DIV/0!	5.7	0
Port McNeill Forest District (TSA & TFL)	D	F. H. Maintenance	7 Studies (number)	0	0	0	0	0	0	#DIV/0!	5.7	0
Port McNeill Forest District (TSA & TFL)	D	F. H. Maintenance	8 Other	0	0	0	0	0	0	#DIV/0!	5.7	0
Port McNeill Forest District (TSA & TFL)	E	Current Fire/Pest	1 Planning/surveys/presc	2	2	2	2	2	300	150	4.3	0
Port McNeill Forest District (TSA & TFL)	E	Current Fire/Pest	2 Site preparation	0	0	0	0	0	0	#DIV/0!	5.7	0
Port McNeill Forest District (TSA & TFL)	E	Current Fire/Pest	3 Planting	2	2	2	2	2	3,000	1,500	4.3	0
Port McNeill Forest District (TSA & TFL)	E	Current Fire/Pest	4 Brushing	0	0	0	0	0	0	#DIV/0!	5.7	0
Port McNeill Forest District (TSA & TFL)	E	Current Fire/Pest	5 Max. density spacing	0	0	0	0	0	0	#DIV/0!	5.7	0
Port McNeill Forest District (TSA & TFL)	E	Current Fire/Pest	6 Studies	0	0	0	0	0	0	#DIV/0!	5.7	0
Port McNeill Forest District (TSA & TFL)	E	Current Fire/Pest	7 Other	0	0	0	0	0	0	#DIV/0!	5.7	0
Port McNeill Forest District (TSA & TFL)	F	Habitat Supply	1 Planning/surveys/presc	440	320	320	120	120	47,000	107	3.2	0
Port McNeill Forest District (TSA & TFL)	F	Habitat Supply	2 Site preparation	0	0	0	0	0	0	#DIV/0!	5.7	0
Port McNeill Forest District (TSA & TFL)	F	Habitat Supply	3 Planting	0	0	0	0	0	0	#DIV/0!	5.7	0
Port McNeill Forest District (TSA & TFL)	F	Habitat Supply	4 Brushing	0	0	0	0	0	0	#DIV/0!	5.7	0
Port McNeill Forest District (TSA & TFL)	F	Habitat Supply	5 Spacing	100	120	80	80	80	200,000	2,000	4.0	0
Port McNeill Forest District (TSA & TFL)	F	Habitat Supply	6 Pruning	100	65	65	65	65	200,000	2,000	3.5	0
Port McNeill Forest District (TSA & TFL)	F	Habitat Supply	7 Studies	0	1	1	1	0	0	#DIV/0!	4.7	0
Port McNeill Forest District (TSA & TFL)	F	Habitat Supply	8 Others	0	0	0	0	0	0	#DIV/0!	5.7	0
										Check totals		
	Totals			#REF!	#REF!	#REF!	#REF!	#REF!	4,834,712	#DIV/0!	243	

Table 2. Port McNeill Forest District (TSA only)
Summary Table
August 31, 1999

	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
Table Totals	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	3,000	2,850	2,500	2,500	2,500	772,500	258	**3.2**
Table B: Stand Tending Activities	1,400	1,400	1,400	1,400	1,400	725,000	518	**4.2**
Table C: Forest Health Enhancement Activities	10	10	10	10	10	30,000	3,000	**5.6**
Table D: Forest Health Maintenance Activities	8	8	8	8	8	8,000	1,000	**5.5**
Table E: Current Fire and Pest Activities	0	0	0	0	0	0	#DIV/0!	**7.0**
Table F: Habitat Supply Activities	0	0	0	0	0	0	#DIV/0!	**7.0**
Totals of all tables	4,418	4,268	3,918	3,918	3,918	1,535,500	348	

	Activities Sorted by Priority (Ctl-e)				Five-Year Plan Goals (ha)					Annual Plan 2000/01			
Management Unit	**Table and category**		**Activity**		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority	Regional Priority
Timber Supply Area within Port McNeill	A	Backlog Legal	1	Planning/surveys/presc.	0	0	0	0	0	0	0	7	0
Timber Supply Area within Port McNeill	A	Backlog Legal	2	Site preparation	0	0	0	0	0	0	0	7	0
Timber Supply Area within Port McNeill	A	Backlog Legal	3	Planting	0	0	0	0	0	0	0	7	0
Timber Supply Area within Port McNeill	A	Backlog Legal	4	Brushing	0	0	0	0	0	0	0	7	0
Timber Supply Area within Port McNeill	A	Backlog Legal	5	Seed Purchase	0	0	0	0	0	0	0	7	0
Timber Supply Area within Port McNeill	A	Backlog Legal	6	Max. density spacing	0	0	0	0	0	0	0	7	0
Timber Supply Area within Port McNeill	A	Backlog Legal	7	Pruning	0	0	0	0	0	0	0	7	0
Timber Supply Area within Port McNeill	A	Backlog Backlog	1	Planning/surveys/presc.	1,700	1,650	1,500	1,500	1,500	47,500	28	1	0
Timber Supply Area within Port McNeill	A	Backlog Backlog	2	Site preparation	100	50	0	0	0	100,000	1,000	1	0
Timber Supply Area within Port McNeill	A	Backlog Backlog	3	Site Restoration Road/land	0	0	0	0	0	0	0	1	0
Timber Supply Area within Port McNeill	A	Backlog Backlog	4	Planting	200	150	0	0	0	200,000	1,000	1	0
Timber Supply Area within Port McNeill	A	Backlog Backlog	5	Brushing	0	0	0	0	0	0	0	1	0
Timber Supply Area within Port McNeill	A	Backlog Backlog	6	Seed Purchase	0	0	0	0	0	0	0	1	0
Timber Supply Area within Port McNeill	A	Backlog Impeded	1	Planning/surveys/presc.	500	500	500	500	500	25,000	50	1	0
Timber Supply Area within Port McNeill	A	Backlog Impeded	2	Site preparation	0	0	0	0	0	0	0	1	0
Timber Supply Area within Port McNeill	A	Backlog Impeded	3	Planting	0	0	0	0	0	0	0	1	0
Timber Supply Area within Port McNeill	A	Backlog Impeded	4	Brushing	500	500	500	500	500	400,000	800	1	0
Timber Supply Area within Port McNeill	A	Backlog Impeded	5	Seed Purchase	0	0	0	0	0	0	0	1	0
Timber Supply Area within Port McNeill	A	Backlog Total	7	Studies	0	0	0	0	0	0	0	1	0
Timber Supply Area within Port McNeill	B	Stand Tending	1	Planning/surveys/presc.	700	700	700	700	700	55,000	79	2	0
Timber Supply Area within Port McNeill	B	Stand Tending	2	Spacing	100	100	100	100	100	175,000	1,750	4	0
Timber Supply Area within Port McNeill	B	Stand Tending	3	Pruning	100	100	100	100	100	195,000	1,950	5	0
Timber Supply Area within Port McNeill	B	Stand Tending	4	Fertilizing	500	500	500	500	500	300,000	600	2	0
Timber Supply Area within Port McNeill	B	Stand Tending	5	Studies	0	0	0	0	0	0	0	6	0
Timber Supply Area within Port McNeill	B	Stand Tending	6	Other	0	0	0	0	0	0	0	6	0
Timber Supply Area within Port McNeill	C	F. H. Enhancement	1	Site rehab	0	0	0	0	0	0	0	6	0
Timber Supply Area within Port McNeill	C	F. H. Enhancement	2	Spacing	0	0	0	0	0	0	0	6	0
Timber Supply Area within Port McNeill	C	F. H. Enhancement	3	Pruning	0	0	0	0	0	0	0	6	0
Timber Supply Area within Port McNeill	C	F. H. Enhancement	4	Studies	10	10	10	10	10	30,000	3,000	3	0
Timber Supply Area within Port McNeill	C	F. H. Enhancement	5	Others	0	0	0	0	0	0	0	7	0
Timber Supply Area within Port McNeill	D	F. H. Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	0	1	0
Timber Supply Area within Port McNeill	D	F. H. Maintenance	2	Aerial Surveys (hours flying	8	8	8	8	8	8,000	1,000	1	0
Timber Supply Area within Port McNeill	D	F. H. Maintenance	3	Fall & burn treatment (trees	0	0	0	0	0	0	0	7	0
Timber Supply Area within Port McNeill	D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	7	0
Timber Supply Area within Port McNeill	D	F. H. Maintenance	5	Pheromone baiting (trees)	0	0	0	0	0	0	0	7	0
Timber Supply Area within Port McNeill	D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	7	0
Timber Supply Area within Port McNeill	D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	0	7	0
Timber Supply Area within Port McNeill	D	F. H. Maintenance	8	Other	0	0	0	0	0	0	0	7	0
Timber Supply Area within Port McNeill	E	Current Fire/Pest	1	Planning/surveys/presc.	0	0	0	0	0	0	0	7	0
Timber Supply Area within Port McNeill	E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	0	7	0
Timber Supply Area within Port McNeill	E	Current Fire/Pest	3	Planting	0	0	0	0	0	0	0	7	0
Timber Supply Area within Port McNeill	E	Current Fire/Pest	4	Brushing	0	0	0	0	0	0	0	7	0
Timber Supply Area within Port McNeill	E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	7	0
Timber Supply Area within Port McNeill	E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	7	0
Timber Supply Area within Port McNeill	E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	7	0
Timber Supply Area within Port McNeill	F	Habitat Supply	1	Planning/surveys/presc.	0	0	0	0	0	0	0	7	0
Timber Supply Area within Port McNeill	F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	7	0
Timber Supply Area within Port McNeill	F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	7	0
Timber Supply Area within Port McNeill	F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	7	0
Timber Supply Area within Port McNeill	F	Habitat Supply	5	Spacing	0	0	0	0	0	0	0	7	0
Timber Supply Area within Port McNeill	F	Habitat Supply	6	Pruning	0	0	0	0	0	0	0	7	0
Timber Supply Area within Port McNeill	F	Habitat Supply	7	Studies	0	0	0	0	0	0	0	7	0
Timber Supply Area within Port McNeill	F	Habitat Supply	8	Others	0	0	0	0	0	0	0	7	0
											Check totals:		
	Totals				4,418	4,268	3,918	3,918	3,918	1,535,500	11,257	263	

Table 3. Port McNeill Forest District (TFL only)
Summary Table
August 31, 1999

Table Totals	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	4,107	3,346	3,006	2,871	1,846	610,162	149	5.5
Table B: Stand Tending Activities	4,260	5,651	5,616	5,666	5,675	2,237,750	525	3.7
Table C: Forest Health Enhancement Activities	0	0	0	0	0	0	#DIV/0!	9.0
Table D: Forest Health Maintenance Activities	1	1	1	1	1	1,000	1,000	8.7
Table E: Current Fire and Pest Activities	4	4	4	4	4	3,300	825	8.2
Table F: Habitat Supply Activities	640	506	466	266	265	447,000	698	5.4
Totals of all tables	9,012	9,508	9,093	8,808	7,791	3,299,212	423	

Activities Sorted by Priority (Ctl-e)

Management Unit	Table and category		Activity		Five-Year Plan Goals (ha)					Annual Plan 2000/01			
					2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority	Regional Priority
Tree Farm Licencees with Port McNeill	A	Backlog Legal	1	Planning/surveys/presc.	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	A	Backlog Legal	2	Site preparation	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	A	Backlog Legal	3	Planting	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	A	Backlog Legal	4	Brushing	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	A	Backlog Legal	5	Seed Purchase	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	A	Backlog Legal	6	Max. density spacing	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	A	Backlog Legal	7	Pruning	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	A	Backlog Backlog	1	Planning/surveys/presc.	#REF!	#REF!	#REF!	#REF!	#REF!	44,000	#REF!	2	0
Tree Farm Licencees with Port McNeill	A	Backlog Backlog	2	Site preparation	#REF!	#REF!	#REF!	#REF!	#REF!	0	#REF!	4	0
Tree Farm Licencees with Port McNeill	A	Backlog Backlog	3	Site Restoration Road/land	#REF!	#REF!	#REF!	#REF!	#REF!	0	#REF!	5	0
Tree Farm Licencees with Port McNeill	A	Backlog Backlog	4	Planting	#REF!	#REF!	#REF!	#REF!	#REF!	5,000	#REF!	3	0
Tree Farm Licencees with Port McNeill	A	Backlog Backlog	5	Brushing	#REF!	#REF!	#REF!	#REF!	#REF!	90,000	#REF!	3	0
Tree Farm Licencees with Port McNeill	A	Backlog Backlog	6	Seed Purchase	5	5	0	0	0	350	70	4	0
Tree Farm Licencees with Port McNeill	A	Backlog Impeded	1	Planning/surveys/presc.	2,312	1,600	1,450	1,450	450	93,512	40	3	0
Tree Farm Licencees with Port McNeill	A	Backlog Impeded	2	Site preparation	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	A	Backlog Impeded	3	Planting	21	10	0	0	0	20,900	995	4	0
Tree Farm Licencees with Port McNeill	A	Backlog Impeded	4	Brushing	564	510	260	260	260	352,400	625	3	0
Tree Farm Licencees with Port McNeill	A	Backlog Impeded	5	Seed Purchase	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	A	Backlog Total	7	Studies	0	1	1	1	1	4,000	1,000,000	4	0
Tree Farm Licencees with Port McNeill	B	Stand Tending	1	Planning/surveys/presc.	1,130	2,790	2,790	2,765	2,780	91,450	81	1	0
Tree Farm Licencees with Port McNeill	B	Stand Tending	2	Spacing	249	485	475	450	470	549,950	2,209	2	0
Tree Farm Licencees with Port McNeill	B	Stand Tending	3	Pruning	116	350	350	350	350	295,800	2,550	6	0
Tree Farm Licencees with Port McNeill	B	Stand Tending	4	Fertilizing	2,689	1,950	1,925	2,025	2,000	1,122,550	417	1	0
Tree Farm Licencees with Port McNeill	B	Stand Tending	5	Studies	1	1	1	1	0	8,000	8,000	4	0
Tree Farm Licencees with Port McNeill	B	Stand Tending	6	Other	75	75	75	75	75	170,000	2,267	3	0
Tree Farm Licencees with Port McNeill	C	F. H. Enhancement	1	Site rehab	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	C	F. H. Enhancement	2	Spacing	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	C	F. H. Enhancement	3	Pruning	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	C	F. H. Enhancement	4	Studies	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	C	F. H. Enhancement	5	Others	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	D	F. H. Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	D	F. H. Maintenance	2	Aerial Surveys (hours flying	1	1	1	1	1	1,000	1,000	4	0
Tree Farm Licencees with Port McNeill	D	F. H. Maintenance	3	Fall & burn treatment (trees	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	D	F. H. Maintenance	5	Pheromone baiting (trees)	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	D	F. H. Maintenance	8	Other	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	E	Current Fire/Pest	1	Planning/surveys/presc.	2	2	2	2	2	300	150	4	0
Tree Farm Licencees with Port McNeill	E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	E	Current Fire/Pest	3	Planting	2	2	2	2	2	3,000	1,500	4	0
Tree Farm Licencees with Port McNeill	E	Current Fire/Pest	4	Brushing	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	E	Current Fire/Pest	7	Other	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	F	Habitat Supply	1	Planning/surveys/presc.	440	320	320	120	120	47,000	107	2	0
Tree Farm Licencees with Port McNeill	F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	F	Habitat Supply	3	Planting	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	F	Habitat Supply	4	Brushing	0	0	0	0	0	0	#DIV/0!	5	0
Tree Farm Licencees with Port McNeill	F	Habitat Supply	5	Spacing	100	120	80	80	80	200,000	2,000	3	0
Tree Farm Licencees with Port McNeill	F	Habitat Supply	6	Pruning	100	65	65	65	65	200,000	2,000	3	0
Tree Farm Licencees with Port McNeill	F	Habitat Supply	7	Studies	0	1	1	1	0	0	#DIV/0!	4	0
Tree Farm Licencees with Port McNeill	F	Habitat Supply	8	Others	0	0	0	0	0	0	#DIV/0!	5	0
											Check totals:		
	Totals				#REF!	#REF!	#REF!	#REF!	#REF!	3,299,212	#REF!	239	

Table 4. TFL 37 - Canadian Forest Products Ltd.
Summary Table
August 6, 1999

Table Totals	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	520	200	200	200	200	33,000	63	7.9
Table B: Stand Tending Activities	1,095	0	0	0	0	415,500	379	5.3
Table C: Forest Health Enhancement Activities	0	0	0	0	0	0	#DIV/0!	9.0
Table D: Forest Health Maintenance Activities	0	0	0	0	0	0	#DIV/0!	9.0
Table E: Current Fire and Pest Activities	0	0	0	0	0	0	#DIV/0!	9.0
Table F: Habitat Supply Activities	400	240	240	240	240	425,000	1,063	6.3
Totals of all tables	2,015	440	440	440	440	873,500	433	

Activities Sorted by Priority (Ctl-e)

Management Unit	Table and category		Activity		Five-Year Plan Goals (ha)					Annual Plan 2000/01			
					2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority	Regional Priority
TFL 37 - Canadian Forest Products Ltd.	A	Backlog Legal	1	Planning/surveys/presc.	0	0	0	0	0	0	#REF!	9	0
TFL 37 - Canadian Forest Products Ltd.	A	Backlog Legal	2	Site preparation	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	A	Backlog Legal	3	Planting	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	A	Backlog Legal	4	Brushing	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	A	Backlog Legal	5	Seed Purchase	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	A	Backlog Legal	6	Max. density spacing	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	A	Backlog Legal	7	Pruning	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	A	Backlog Backlog	1	Planning/surveys/presc.	#REF!	#REF!	#REF!	#REF!	#REF!	0	#REF!	9	0
TFL 37 - Canadian Forest Products Ltd.	A	Backlog Backlog	2	Site preparation	#REF!	#REF!	#REF!	#REF!	#REF!	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	A	Backlog Backlog	3	Site Restoration Road/land	#REF!	#REF!	#REF!	#REF!	#REF!	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	A	Backlog Backlog	4	Planting	#REF!	#REF!	#REF!	#REF!	#REF!	0	#REF!	9	0
TFL 37 - Canadian Forest Products Ltd.	A	Backlog Backlog	5	Brushing	#REF!	#REF!	#REF!	#REF!	#REF!	0	#REF!	9	0
TFL 37 - Canadian Forest Products Ltd.	A	Backlog Backlog	6	Seed Purchase	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	A	Backlog Impeded	1	Planning/surveys/presc.	500	200	200	200	200	11,000	22	3	0
TFL 37 - Canadian Forest Products Ltd.	A	Backlog Impeded	2	Site preparation	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	A	Backlog Impeded	3	Planting	10	0	0	0	0	11,000	1,100	1	0
TFL 37 - Canadian Forest Products Ltd.	A	Backlog Impeded	4	Brushing	10	0	0	0	0	11,000	1,100	2	0
TFL 37 - Canadian Forest Products Ltd.	A	Backlog Impeded	5	Seed Purchase	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	A	Backlog Total	7	Studies	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	B	Stand Tending	1	Planning/surveys/presc.	10	0	0	0	0	1,250	125	2	0
TFL 37 - Canadian Forest Products Ltd.	B	Stand Tending	2	Spacing	10	0	0	0	0	38,000	3,800	2	0
TFL 37 - Canadian Forest Products Ltd.	B	Stand Tending	3	Pruning	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	B	Stand Tending	4	Fertilizing	1,075	0	0	0	0	376,250	350	1	0
TFL 37 - Canadian Forest Products Ltd.	B	Stand Tending	5	Studies	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	B	Stand Tending	6	Other	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	C	F. H. Enhancement	1	Site rehab	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	C	F. H. Enhancement	2	Spacing	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	C	F. H. Enhancement	3	Pruning	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	C	F. H. Enhancement	4	Studies	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	C	F. H. Enhancement	5	Others	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	D	F. H. Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	D	F. H. Maintenance	2	Aerial Surveys (hours flying	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	D	F. H. Maintenance	3	Fall & burn treatment (trees	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	D	F. H. Maintenance	5	Pheromone baiting (trees)	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	D	F. H. Maintenance	8	Other	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	E	Current Fire/Pest	1	Planning/surveys/presc.	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	E	Current Fire/Pest	3	Planting	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	E	Current Fire/Pest	4	Brushing	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	F	Habitat Supply	1	Planning/surveys/presc.	200	120	120	120	120	25,000	125	1	0
TFL 37 - Canadian Forest Products Ltd.	F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	F	Habitat Supply	5	Spacing	100	60	60	60	60	200,000	2,000	2	0
TFL 37 - Canadian Forest Products Ltd.	F	Habitat Supply	6	Pruning	100	60	60	60	60	200,000	2,000	2	0
TFL 37 - Canadian Forest Products Ltd.	F	Habitat Supply	7	Studies	0	0	0	0	0	0	0	9	0
TFL 37 - Canadian Forest Products Ltd.	F	Habitat Supply	8	Others	0	0	0	0	0	0	0	9	0
											Check totals:		
	Totals				#REF!	#REF!	#REF!	#REF!	#REF!	873,500	#REF!	412	

873791 **Total Allocation MYA**
291 Variance

Table 5. TFL 45 - International Forest Products
Summary Table
August 17,1999

Table Totals	Five-Year Plan Goals (ha) 2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Annual Plan 2000/01 Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	0	0	175	150	125	0	0	N
Table B: Stand Tending Activities	0	135	100	50	0	0	#DIV/0!	N
Table C: Forest Health Enhancement Activities	0	0	0	0	0	0	#DIV/0!	N
Table D: Forest Health Maintenance Activities	0	0	0	0	0	0	#DIV/0!	N
Table E: Current Fire and Pest Activities	0	0	0	0	0	0	#DIV/0!	N
Table F: Habitat Supply Activities	0	0	0	0	0	0	#DIV/0!	N
Totals of all tables	0	135	275	200	125	0	0	

Activities Sorted by Priority (Ctl-e)

Management Unit	Table and category	Activity	Five-Year Plan Goals (ha) 2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Annual Plan 2000/01 Funding ($000)	Unit Cost ($)	Man. Unit Priority	Regional Priority
TFL 45 Port McNeill District	A Backlog Legal	1 Planning/surveys/presc.	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	A Backlog Legal	2 Site preparation	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	A Backlog Legal	3 Planting	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	A Backlog Legal	4 Brushing	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	A Backlog Legal	5 Seed Purchase	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	A Backlog Legal	6 Max. density spacing	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	A Backlog Legal	7 Pruning	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	A Backlog Backlog	1 Planning/surveys/presc.	0	0	100	100	100	0	0	0	0
TFL 45 Port McNeill District	A Backlog Backlog	2 Site preparation	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	A Backlog Backlog	3 Site Restoration Road/land	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	A Backlog Backlog	4 Planting	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	A Backlog Backlog	5 Brushing	0	0	75	50	25	0	0	0	0
TFL 45 Port McNeill District	A Backlog Backlog	6 Seed Purchase	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	A Backlog Impeded	1 Planning/surveys/presc.	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	A Backlog Impeded	2 Site preparation	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	A Backlog Impeded	3 Planting	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	A Backlog Impeded	4 Brushing	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	A Backlog Impeded	5 Seed Purchase	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	A Backlog Total	7 Studies	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	B Stand Tending	1 Planning/surveys/presc.	0	50	50	25	0	0	0	0	0
TFL 45 Port McNeill District	B Stand Tending	2 Spacing	0	35	25	0	0	0	0	0	0
TFL 45 Port McNeill District	B Stand Tending	3 Pruning	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	B Stand Tending	4 Fertilizing	0	50	25	25	0	0	0	0	0
TFL 45 Port McNeill District	B Stand Tending	5 Studies	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	B Stand Tending	6 Other	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	C F. H. Enhancement	1 Site rehab	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	C F. H. Enhancement	2 Spacing	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	C F. H. Enhancement	3 Pruning	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	C F. H. Enhancement	4 Studies	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	C F. H. Enhancement	5 Others	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	D F. H. Maintenance	1 Ground Surveys (ha)	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	D F. H. Maintenance	2 Aerial Surveys (hours flying	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	D F. H. Maintenance	3 Fall & burn treatment (trees	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	D F. H. Maintenance	4 MSMA treatment (trees)	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	D F. H. Maintenance	5 Pheromone baiting (trees)	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	D F. H. Maintenance	6 Defoliator spraying (ha)	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	D F. H. Maintenance	7 Studies (number)	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	D F. H. Maintenance	8 Other	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	E Current Fire/Pest	1 Planning/surveys/presc.	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	E Current Fire/Pest	2 Site preparation	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	E Current Fire/Pest	3 Planting	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	E Current Fire/Pest	4 Brushing	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	E Current Fire/Pest	5 Max. density spacing	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	E Current Fire/Pest	6 Studies	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	E Current Fire/Pest	7 Other	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	F Habitat Supply	1 Planning/surveys/presc.	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	F Habitat Supply	2 Site preparation	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	F Habitat Supply	3 Planting	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	F Habitat Supply	4 Brushing	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	F Habitat Supply	5 Spacing	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	F Habitat Supply	6 Pruning	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	F Habitat Supply	7 Studies	0	0	0	0	0	0	0	0	0
TFL 45 Port McNeill District	F Habitat Supply	8 Others	0	0	0	0	0	0	0	0	0
									Check totals:		
	Totals		0	135	275	200	125	0	0	0	

Table 6. TFL 39 - MacMillan Bloedel Limited
Summary Table
Aug. 18, 1999

Table Totals	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	1,105	1,105	1,105	1,005	1,005	135,000	122	7.7
Table B: Stand Tending Activities	860	860	860	860	860	345,200	401	3.8
Table C: Forest Health Enhancement Activities	0	0	0	0	0	0	#DIV/0!	9.0
Table D: Forest Health Maintenance Activities	0	0	0	0	0	0	#DIV/0!	9.0
Table E: Current Fire and Pest Activities	0	0	0	0	0	0	#DIV/0!	9.0
Table F: Habitat Supply Activities	0	0	0	0	0	0	#DIV/0!	9.0
Totals of all tables	1,965	1,965	1,965	1,865	1,865	480,200	244	

Activities Sorted by Priority (Ctl-e)

Management Unit	Table and category		Activity		Five-Year Plan Goals (ha)					Annual Plan 2000/01			
					2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority	Regional Priority
MacMillan Bloedel Ltd., Port McNeill Dist	A	Backlog Legal	1	Planning/surveys/presc.	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	A	Backlog Legal	2	Site preparation	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	A	Backlog Legal	3	Planting	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	A	Backlog Legal	4	Brushing	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	A	Backlog Legal	5	Seed Purchase	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	A	Backlog Legal	6	Max. density spacing	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	A	Backlog Legal	7	Pruning	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	A	Backlog Backlog	1	Planning/surveys/presc.	1,000	1,000	1,000	900	900	40,000	40	1	0
MacMillan Bloedel Ltd., Port McNeill Dist	A	Backlog Backlog	2	Site preparation	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	A	Backlog Backlog	3	Site Restoration Road/land	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	A	Backlog Backlog	4	Planting	5	5	5	5	5	5,000	1,000	1	0
MacMillan Bloedel Ltd., Port McNeill Dist	A	Backlog Backlog	5	Brushing	100	100	100	100	100	90,000	900	1	0
MacMillan Bloedel Ltd., Port McNeill Dist	A	Backlog Backlog	6	Seed Purchase	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	A	Backlog Impeded	1	Planning/surveys/presc.	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	A	Backlog Impeded	2	Site preparation	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	A	Backlog Impeded	3	Planting	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	A	Backlog Impeded	4	Brushing	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	A	Backlog Impeded	5	Seed Purchase	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	A	Backlog Total	7	Studies	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	B	Stand Tending	1	Planning/surveys/presc.	400	400	400	400	400	13,200	33	1	0
MacMillan Bloedel Ltd., Port McNeill Dist	B	Stand Tending	2	Spacing	40	40	40	40	40	72,000	1,800	2	0
MacMillan Bloedel Ltd., Port McNeill Dist	B	Stand Tending	3	Pruning	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	B	Stand Tending	4	Fertilizing	400	400	400	400	400	200,000	500	1	0
MacMillan Bloedel Ltd., Port McNeill Dist	B	Stand Tending	5	Studies	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	B	Stand Tending	6	Other	20	20	20	20	20	60,000	3,000	1	0
MacMillan Bloedel Ltd., Port McNeill Dist	C	F. H. Enhancement	1	Site rehab	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	C	F. H. Enhancement	2	Spacing	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	C	F. H. Enhancement	3	Pruning	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	C	F. H. Enhancement	4	Studies	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	C	F. H. Enhancement	5	Others	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	D	F. H. Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	D	F. H. Maintenance	2	Aerial Surveys (hours flying	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	D	F. H. Maintenance	3	Fall & burn treatment (trees	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	D	F. H. Maintenance	5	Pheromone baiting (trees)	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	D	F. H. Maintenance	8	Other	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	E	Current Fire/Pest	1	Planning/surveys/presc.	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	E	Current Fire/Pest	3	Planting	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	E	Current Fire/Pest	4	Brushing	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	F	Habitat Supply	1	Planning/surveys/presc.	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	F	Habitat Supply	5	Spacing	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	F	Habitat Supply	6	Pruning	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	F	Habitat Supply	7	Studies	0	0	0	0	0	0	0	9	0
MacMillan Bloedel Ltd., Port McNeill Dist	F	Habitat Supply	8	Others	0	0	0	0	0	0	0	9	0
											Check totals:		
	Totals				1,965	1,965	1,965	1,865	1,865	480,200	7,273	422	

Table 7. TFL 47 - Tree Farm License Limited
Summary Table
August 7,1999

	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
Table Totals	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	1,015	1,031	1,026	1,016	16	59,350	58	6.3
Table B: Stand Tending Activities	326	216	216	316	375	252,000	773	3.8
Table C: Forest Health Enhancement Activities	0	0	0	0	0	0	#DIV/0!	9.0
Table D: Forest Health Maintenance Activities	1	1	1	1	1	1,000	1,000	8.0
Table E: Current Fire and Pest Activities	4	4	4	4	4	3,300	825	6.7
Table F: Habitat Supply Activities	200	226	226	26	25	16,000	80	5.8
Totals of all tables	1,546	1,478	1,473	1,363	421	331,650	215	

Activities Sorted by Priority (Ctl-e)

					Five-Year Plan Goals (ha)					Annual Plan 2000/01			
Management Unit	**Table and category**		**Activity**		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority	Regional Priority
TFL 47; Port McNeill Forest District	A	Backlog Legal	1	Planning/surveys/presc.	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	A	Backlog Legal	2	Site preparation	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	A	Backlog Legal	3	Planting	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	A	Backlog Legal	4	Brushing	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	A	Backlog Legal	5	Seed Purchase	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	A	Backlog Legal	6	Max. density spacing	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	A	Backlog Legal	7	Pruning	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	A	Backlog Backlog	1	Planning/surveys/presc.	100	100	0	0	0	4,000	40	2	0
TFL 47; Port McNeill Forest District	A	Backlog Backlog	2	Site preparation	0	5	5	0	0	0	1,200	3	0
TFL 47; Port McNeill Forest District	A	Backlog Backlog	3	Site Restoration Road/land	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	A	Backlog Backlog	4	Planting	0	5	5	0	0	0	1,000	3	0
TFL 47; Port McNeill Forest District	A	Backlog Backlog	5	Brushing	0	5	5	5	5	0	800	3	0
TFL 47; Port McNeill Forest District	A	Backlog Backlog	6	Seed Purchase	5	5	0	0	0	350	70	3	0
TFL 47; Port McNeill Forest District	A	Backlog Impeded	1	Planning/surveys/presc.	900	900	1,000	1,000	0	36,000	40	2	0
TFL 47; Port McNeill Forest District	A	Backlog Impeded	2	Site preparation	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	A	Backlog Impeded	3	Planting	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	A	Backlog Impeded	4	Brushing	10	10	10	10	10	15,000	1,500	2	0
TFL 47; Port McNeill Forest District	A	Backlog Impeded	5	Seed Purchase	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	A	Backlog Total	7	Studies	0	1	1	1	1	4,000	#DIV/0!	3	0
TFL 47; Port McNeill Forest District	B	Stand Tending	1	Planning/surveys/presc.	200	120	120	120	160	12,000	60	2	0
TFL 47; Port McNeill Forest District	B	Stand Tending	2	Spacing	90	60	60	60	80	162,000	1,800	3	0
TFL 47; Port McNeill Forest District	B	Stand Tending	3	Pruning	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	B	Stand Tending	4	Fertilizing	0	0	0	100	100	0	250	3	0
TFL 47; Port McNeill Forest District	B	Stand Tending	5	Studies	1	1	1	1	0	8,000	8,000	3	0
TFL 47; Port McNeill Forest District	B	Stand Tending	6	Other	35	35	35	35	35	70,000	2,000	3	0
TFL 47; Port McNeill Forest District	C	F. H. Enhancement	1	Site rehab	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	C	F. H. Enhancement	2	Spacing	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	C	F. H. Enhancement	3	Pruning	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	C	F. H. Enhancement	4	Studies	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	C	F. H. Enhancement	5	Others	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	D	F. H. Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	D	F. H. Maintenance	2	Aerial Surveys (hours flying	1	1	1	1	1	1,000	1,000	1	0
TFL 47; Port McNeill Forest District	D	F. H. Maintenance	3	Fall & burn treatment (trees	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	D	F. H. Maintenance	5	Pheromone baiting (trees)	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	D	F. H. Maintenance	8	Other	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	E	Current Fire/Pest	1	Planning/surveys/presc	2	2	2	2	2	300	150	1	0
TFL 47; Port McNeill Forest District	E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	E	Current Fire/Pest	3	Planting	2	2	2	2	2	3,000	1,500	1	0
TFL 47; Port McNeill Forest District	E	Current Fire/Pest	4	Brushing	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	F	Habitat Supply	1	Planning/surveys/presc.	200	200	200	0	0	16,000	80	1	0
TFL 47; Port McNeill Forest District	F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	9	0
TFL 47; Port McNeill Forest District	F	Habitat Supply	5	Spacing	0	20	20	20	20	0	1,800	3	0
TFL 47; Port McNeill Forest District	F	Habitat Supply	6	Pruning	0	5	5	5	5	0	1,500	3	0
TFL 47; Port McNeill Forest District	F	Habitat Supply	7	Studies	0	1	1	1	0	0	8,000	3	0
TFL 47; Port McNeill Forest District	F	Habitat Supply	8	Others	0	0	0	0	0	0	0	9	0
											Check totals:		
	Totals				1,546	1,478	1,473	1,363	421	331,650	#DIV/0!	345	

Table 8. TFL 6 - Western Forest Products
Summary Table
August 30, 1999

Table Totals	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	1,467	1,010	500	500	500	382,812	261	0.2
Table B: Stand Tending Activities	1,979	4,440	4,440	4,440	4,440	1,225,050	619	1.8
Table C: Forest Health Enhancement Activities	0	0	0	0	0	0	#DIV/0!	N
Table D: Forest Health Maintenance Activities	0	0	0	0	0	0	#DIV/0!	N
Table E: Current Fire and Pest Activities	0	0	0	0	0	0	#DIV/0!	N
Table F: Habitat Supply Activities	40	40	0	0	0	6,000	150	0.5
Totals of all tables	3,486	5,490	4,940	4,940	4,940	1,613,862	463	

Activities Sorted by Priority (Ctl-e)

Management Unit	Table and category	Activity	Five-Year Plan Goals (ha)					Annual Plan 2000/01			
			2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority	Regional Priority
TFL 6 Port McNeill District	A Backlog Legal	1 Planning/surveys/presc.	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	A Backlog Legal	2 Site preparation	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	A Backlog Legal	3 Planting	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	A Backlog Legal	4 Brushing	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	A Backlog Legal	5 Seed Purchase	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	A Backlog Legal	6 Max. density spacing	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	A Backlog Legal	7 Pruning	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	A Backlog Backlog	1 Planning/surveys/presc.	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	A Backlog Backlog	2 Site preparation	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	A Backlog Backlog	3 Site Restoration Road/land	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	A Backlog Backlog	4 Planting	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	A Backlog Backlog	5 Brushing	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	A Backlog Backlog	6 Seed Purchase	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	A Backlog Impeded	1 Planning/surveys/presc.	912	500	250	250	250	46,512	51	1	0
TFL 6 Port McNeill District	A Backlog Impeded	2 Site preparation	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	A Backlog Impeded	3 Planting	11	10	0	0	0	9,900	900	1	0
TFL 6 Port McNeill District	A Backlog Impeded	4 Brushing	544	500	250	250	250	326,400	600	1	0
TFL 6 Port McNeill District	A Backlog Impeded	5 Seed Purchase	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	A Backlog Total	7 Studies	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	B Stand Tending	1 Planning/surveys/presc.	520	2,220	2,220	2,220	2,220	65,000	125	1	0
TFL 6 Port McNeill District	B Stand Tending	2 Spacing	109	350	350	350	350	277,950	2,550	3	0
TFL 6 Port McNeill District	B Stand Tending	3 Pruning	116	350	350	350	350	295,800	2,550	3	0
TFL 6 Port McNeill District	B Stand Tending	4 Fertilizing	1,214	1,500	1,500	1,500	1,500	546,300	450	1	0
TFL 6 Port McNeill District	B Stand Tending	5 Studies	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	B Stand Tending	6 Other	20	20	20	20	20	40,000	2,000	3	0
TFL 6 Port McNeill District	C F. H. Enhancement	1 Site rehab	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	C F. H. Enhancement	2 Spacing	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	C F. H. Enhancement	3 Pruning	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	C F. H. Enhancement	4 Studies	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	C F. H. Enhancement	5 Others	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	D F. H. Maintenance	1 Ground Surveys (ha)	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	D F. H. Maintenance	2 Aerial Surveys (hours flying	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	D F. H. Maintenance	3 Fall & burn treatment (trees	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	D F. H. Maintenance	4 MSMA treatment (trees)	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	D F. H. Maintenance	5 Pheromone baiting (trees)	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	D F. H. Maintenance	6 Defoliator spraying (ha)	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	D F. H. Maintenance	7 Studies (number)	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	D F. H. Maintenance	8 Other	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	E Current Fire/Pest	1 Planning/surveys/presc.	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	E Current Fire/Pest	2 Site preparation	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	E Current Fire/Pest	3 Planting	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	E Current Fire/Pest	4 Brushing	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	E Current Fire/Pest	5 Max. density spacing	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	E Current Fire/Pest	6 Studies	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	E Current Fire/Pest	7 Other	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	F Habitat Supply	1 Planning/surveys/presc.	40	0	0	0	0	6,000	150	1	0
TFL 6 Port McNeill District	F Habitat Supply	2 Site preparation	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	F Habitat Supply	3 Planting	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	F Habitat Supply	4 Brushing	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	F Habitat Supply	5 Spacing	0	40	0	0	0	0	2,550	3	0
TFL 6 Port McNeill District	F Habitat Supply	6 Pruning	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	F Habitat Supply	7 Studies	0	0	0	0	0	0	0	0	0
TFL 6 Port McNeill District	F Habitat Supply	8 Others	0	0	0	0	0	0	0	0	0
									Check totals		
Totals			3,486	5,490	4,940	4,940	4,940	1,613,862	11,926	18	

Appendix 11: Mid Coast Forest District
Table A: Backlog Activities
September 30 1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
Legal Obligations	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	1787	1351	418	262	84	$25,024	$14	1
2 Site preparation	0	0	0	0	0	0	#DIV/0!	9
3 Planting	0	0	0	0	0	0	#DIV/0!	9
4 Brushing	0	0	0	0	0	0	#DIV/0!	9
5 Seed purchase	0	0	0	0	0	0	#DIV/0!	9
6 Max. density spacing	0	0	0	0	0	0	#DIV/0!	9
7 Pruning	0	0	0	0	0	0	#DIV/0!	9
Totals	1787	1351	418	262	84	25024	$14	
Backlog Reforestation								
1 Planning/surveys/prescriptions	522	150	200	75	25	$25,442	$49	1
2 Site preparation	0	0	0	0	0	0	#DIV/0!	9
3 Site restoration road/land. rehab	0	0	0	0	0	0	#DIV/0!	9
4 Planting	0	0	0	0	0	0	#DIV/0!	9
5 Brushing	175	125	100	100	50	280,000	1,600	2
6 Seed purchase	0	0	0	0	0	0	#DIV/0!	9
Totals	697	275	300	175	75	$305,442	$438	
Impeded areas								
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	#DIV/0!	9
2 Site preparation	0	0	0	0	0	$0	#DIV/0!	9
3 Planting	0	0	0	0	0	$0	#DIV/0!	9
4 Brushing	130	82	31	0	0	169,260	1,302	2
5 Seed purchase	0	0	0	0	0	0	#DIV/0!	9
Totals	130	82	31	0	0	$169,260	$1,302	
Backlog Activities - Management Unit Total								
1 Planning/surveys/prescriptions	2309	1501	618	337	109	$50,466	$22	
2 Site preparation	0	0	0	0	0	0	#DIV/0!	
3 Site restoration road/land. rehab	0	0	0	0	0	0	#DIV/0!	
4 Planting	0	0	0	0	0	0	#DIV/0!	
5 Brushing	305	207	131	100	50	449,260	1,473	
6 Seed purchase	0	0	0	0	0	0	#DIV/0!	
7 Max. density spacing	0	0	0	0	0	0	#DIV/0!	
8 Pruning	0	0	0	0	0	0	#DIV/0!	
9 Studies	0	0	0	0	0	0	0	0
Totals	2614	1708	749	437	159	$499,726	$191	

Appendix 11: Mid Coast Forest District
Table B: Stand Tending Activities
September 30 1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	737	384	150	325	125	$36,250	$49	2
2	Spacing	692	140	160	115	135	1,513,800	2,188	2
3	Pruning	417	140	149	202	0	938,025	2,249	3
4	Fertilizing	0	0	310	0	200	0	#DIV/0!	9
5	Studies	0	0	0	0	0	0	#DIV/0!	9
6	Other	30	30	30	30	30	96,000	3,200	3
	Totals	1876	694	799	672	490	2584075	$1,377	

Appendix 11: Mid Coast Forest District
Table C: Forest Health Enhancement Activities
September 30 1999

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Site rehab	0	0	0	0	0	$0	$0	9
2 Spacing	0	0	0	0	0	0	0	9
3 Pruning	0	0	0	0	0	0	0	9
4 Studies	1	0	0	0	0	20,000	20,000	3
5 Others	0	0	0	0	0	0	0	9
Totals	1	0	0	0	0	$20,000	$19,920	

Appendix 11: Mid Coast Forest District
Table D: Forest Health Maintenance Activities
September 30 1999

	Activities	**Units**	**Five-year Plan Goals (ha)**					**Annual Plan 2000/01**		
			2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Ground Surveys	ha	84	0	0	0	0	$2,520	$30	4
2	Aerial Surveys	hours of flying time							#DIV/0!	9
3	Fall and burn treatment	trees	0	0	0	0	0	0	0	9
4	MSMA treatment	trees	0	0	0	0	0	0	0	9
5	Pheromone baiting	trees	0	0	0	0	0	0	0	9
6	Defoliator spraying	ha	0	0	0	0	0	0	0	9
7	Studies	number	0	0	0	0	0	0	0	9
8	Other		0	0	0	0	0	0	0	9
	Totals		84	0	0	0	0	$2,520	$30	

Appendix 11: Mid Coast Forest District
Table E: Current Fire and Pest Activities
September 30 1999

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	#DIV/0!	9
2 Site preparation	0	0	0	0	0	$0	#DIV/0!	9
3 Planting	0	0	0	0	0	$0	#DIV/0!	9
4 Brushing	0	0	0	0	0	$0	#DIV/0!	9
5 Max. density spacing	0	0	0	0	0	0	0	9
6 Studies	0	0	0	0	0	0	0	9
7 Other	0	0	0	0	0	0	0	9
Totals	$0	$0	$0	$0	$0	$0	$0	

Appendix 11: Mid Coast Forest District
Table F: Habitat Supply Activities
September 30 1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	9
2 Site preparation	0	0	0	0	0	0	0	9
3 Planting	0	0	0	0	0	0	0	9
4 Brushing	0	0	0	0	0	0	0	9
5 Spacing	0	0	0	0	0	0	0	9
6 Pruning	0	0	0	0	0	0	0	9
7 Studies	0	0	0	0	0	0	0	9
8 Others	0	0	0	0	0	0	0	9
Totals	0	0	0	0	0	$0	$0	

See MELP Tables for Summaries

Appendix 11: Mid Coast Forest District
Summary Table
September 30 1999

Table Totals	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	2,614	1,708	749	437	159	499,726	191	
Table B: Stand Tending Activities	1,876	694	799	672	490	2,584,075	1,377	
Table C: Forest Health Enhancement Activities	1	0	0	0	0	20,000	19,920	
Table D: Forest Health Maintenance Activities	84	0	0	0	0	2,520	30	
Table E: Current Fire and Pest Activities	0	0	0	0	0	0	0	
Table F: Habitat Supply Activities	0	0	0	0	0	0	0	
Totals of all tables	4,575	2,402	1,548	1,109	649	3,106,321	679	

Activities Sorted by Priority (Ctl-e)

Table and category			Activity		Five-Year Plan Goals (ha)					Annual Plan 2000/01		
					2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority
A	Backlog	Legal	1	Planning/surveys/presc.	1,787	1,351	418	262	84	25,024	14	1
A	Backlog	Legal	2	Site preparation	0	0	0	0	0	0	#DIV/0!	9
A	Backlog	Legal	3	Planting	0	0	0	0	0	0	#DIV/0!	9
A	Backlog	Legal	4	Brushing	0	0	0	0	0	0	#DIV/0!	9
A	Backlog	Legal	5	Seed Purchase	0	0	0	0	0	0	#DIV/0!	9
A	Backlog	Legal	6	Max. density spacing	0	0	0	0	0	0	#DIV/0!	9
A	Backlog	Legal	7	Pruning	0	0	0	0	0	0	#DIV/0!	9
A	Backlog	Backlog	1	Planning/surveys/presc.	522	150	200	75	25	25,442	49	1
A	Backlog	Backlog	2	Site preparation	0	0	0	0	0	0	#DIV/0!	9
A	Backlog	Backlog	3	Site Restoration Road/land.	0	0	0	0	0	0	#DIV/0!	9
A	Backlog	Backlog	4	Planting	0	0	0	0	0	0	#DIV/0!	9
A	Backlog	Backlog	5	Brushing	175	125	100	100	50	280,000	1,600	2
A	Backlog	Backlog	6	Seed Purchase	0	0	0	0	0	0	#DIV/0!	9
A	Backlog	Impeded	1	Planning/surveys/presc.	0	0	0	0	0	0	#DIV/0!	9

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
A	Backlog Impeded	2	Site preparation	0	0	0	0	0	0	#DIV/0!	9
A	Backlog Impeded	3	Planting	0	0	0	0	0	0	#DIV/0!	9
A	Backlog Impeded	4	Brushing	130	82	31	0	0	169,260	1,302	2
A	Backlog Impeded	5	Seed Purchase	0	0	0	0	0	0	#DIV/0!	9
A	Backlog Total	7	Studies	0	0	0	0	0	0	0	0
B	Stand Tending	1	Planning/surveys/presc.	737	384	150	325	125	36,250	49	2
B	Stand Tending	2	Spacing	692	140	160	115	135	1,513,800	2,188	2
B	Stand Tending	3	Pruning	417	140	149	202	0	938,025	2,249	3
B	Stand Tending	4	Fertilizing	0	0	310	0	200	0	#DIV/0!	9
B	Stand Tending	5	Studies	0	0	0	0	0	0	#DIV/0!	9
B	Stand Tending	6	Other	30	30	30	30	30	96,000	3,200	3
C	F. H. Enhancement	1	Site rehab	0	0	0	0	0	0	0	9
C	F. H. Enhancement	2	Spacing	0	0	0	0	0	0	0	9
C	F. H. Enhancement	3	Pruning	0	0	0	0	0	0	0	9
C	F. H. Enhancement	4	Studies	1	0	0	0	0	20,000	20,000	3
C	F. H. Enhancement	5	Others	0	0	0	0	0	0	0	9
D	F. H. Maintenance	1	Ground Surveys (ha)	84	0	0	0	0	2,520	30	4
D	F. H. Maintenance	2	Aerial Surveys (hours flying	0	0	0	0	0	0	#DIV/0!	9
D	F. H. Maintenance	3	Fall & burn treatment (trees	0	0	0	0	0	0	0	9
D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	9
D	F. H. Maintenance	5	Pheromone baiting (trees)	0	0	0	0	0	0	0	9
D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	9
D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	0	9
D	F. H. Maintenance	8	Other	0	0	0	0	0	0	0	9
E	Current Fire/Pest	1	Planning/surveys/presc.	0	0	0	0	0	0	#DIV/0!	9
E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	#DIV/0!	9
E	Current Fire/Pest	3	Planting	0	0	0	0	0	0	#DIV/0!	9
E	Current Fire/Pest	4	Brushing	0	0	0	0	0	0	#DIV/0!	9
E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	9
E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	9
E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	9
F	Habitat Supply	1	Planning/surveys/presc.	0	0	0	0	0	0	0	9
F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	9
F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	9
F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	9

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
F	Habitat Supply	5	Spacing	0	0	0	0	0	0	0	9
F	Habitat Supply	6	Pruning	0	0	0	0	0	0	0	9
F	Habitat Supply	7	Studies	0	0	0	0	0	0	0	9
F	Habitat Supply	8	Others	0	0	0	0	0	0	0	9
										Check totals:	
Totals				4,575	2,402	1,548	1,109	649	3,106,321	#DIV/0!	401

Appendix 12: Queen Charlotte Islands Forest District
Table A: Backlog Activities
September 30 1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Legal Obligations									
1	Planning/surveys/prescriptions	1860	1650	1650	1650	1650	$113,900	$61	1
2	Site preparation	0	0	0	0	0	0	#DIV/0!	9
3	Planting	0	50	50	50	50	0	#DIV/0!	2
4	Brushing	60	0	0	0	0	120,000	2,000	2
5	Seed purchase	0	0	0	0	0	0	#DIV/0!	9
6	Max. density spacing	0	0	200	200	200	0	#DIV/0!	9
7	Pruning	0	0	0	0	0	0	#DIV/0!	9
	Totals	1920	1700	1900	1900	1900	233900	$122	
Backlog Reforestation									
1	Planning/surveys/prescriptions	4115	4105	4050	4050	4050	$134,100	$33	1
2	Site preparation	0	0	0	0	0	0	#DIV/0!	9
3	Site restoration road/land. rehab	25	15	10	10	10	32,500	1,300	3
4	Planting	15	115	115	115	115	30,000	2,000	2
5	Brushing	30	110	110	110	110	45,000	1,500	2
6	Seed purchase	10	110	110	110	110	70	7	2
	Totals	4195	4455	4395	4395	4395	$241,670	$58	
Impeded areas									
1	Planning/surveys/prescriptions	2615	2120	2070	2070	2070	$103,820	$40	1
2	Site preparation	0	0	0	0	0	0	#DIV/0!	9
3	Planting	45	0	0	0	0	90,000	2,000	2
4	Brushing	580	340	330	230	230	870,000	1,500	2
5	Seed purchase	0	0	0	0	0	0	#DIV/0!	9
	Totals	3240	2460	2400	2300	2300	$1,063,820	$328	
Backlog Activities - Management Unit Total									
1	Planning/surveys/prescriptions	8590	7875	7770	7770	7770	$351,820	$41	
2	Site preparation	0	0	0	0	0	0	#DIV/0!	
3	Site restoration road/land. rehab	25	15	10	10	10	32,500	1,300	
4	Planting	60	165	165	165	165	120,000	2,000	
5	Brushing	670	450	440	340	340	1,035,000	1,545	
6	Seed purchase	10	110	110	110	110	70	7	
7	Max. density spacing	0	0	200	200	200	0	#DIV/0!	
8	Pruning	0	0	0	0	0	0	#DIV/0!	
9	Studies	25	25	25	25	25	40,500	1,620	
	Totals	9380	8640	8720	8620	8620	$1,579,890	$168	

Appendix 12: Queen Charlotte Islands Forest District
Table B: Stand Tending Activities
September 30 1999

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	1240	1160	1060	1060	1060	$91,700	$74	1
2 Spacing	750	680	580	580	580	1,450,000	1,933	2
3 Pruning	177	172	162	162	152	536,000	3,028	4
4 Fertilizing	1045	105	105	105	105	831,250	795	2
5 Studies	40	40	40	40	40	100,000	2,500	3
6 Other	50	45	45	45	45	4,000	80	3
Totals	3302	2202	1992	1992	1982	3012950	$912	

Appendix 12: Queen Charlotte Islands Forest District
Table C: Forest Health Enhancement Activities
September 30 1999

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Site rehab	230	220	220	0	0	$25,800	$112	2
2 Spacing	130	70	70	0	0	260,000	2,000	2
3 Pruning	0	0	0	0	0	0	0	
4 Studies	40	40	40	40	40	4,000	100	3
5 Others	0	0	0	0	0	0	0	
Totals	400	330	330	40	40	$289,800	$724	

Appendix 12: Queen Charlotte Islands Forest District
Table D: Forest Health Maintenance Activities
September 30 1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	**Units**	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Ground Surveys	ha	0	0	0	0	0	$0	$0	9
2 Aerial Surveys	hours of flying time							#DIV/0!	9
3 Fall and burn treatment	trees	0	0	0	0	0	0	0	9
4 MSMA treatment	trees	0	0	0	0	0	0	0	9
5 Pheromone baiting	trees	0	0	0	0	0	0	0	9
6 Defoliator spraying	ha	0	0	0	0	0	0	0	9
7 Studies	number	0	0	0	0	0	0	0	9
8 Other		0	0	0	0	0	0	0	9
Totals		0	0	0	0	0	$0	$0	

Appendix 12: Queen Charlotte Islands Forest District
Table E: Current Fire and Pest Activities
September 30 1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	1000	1000	1000	0	0	$50,000	$50	1
2 Site preparation	0	0	0	0	0	0	#DIV/0!	9
3 Planting	0	200	100	0	0	0	#DIV/0!	9
4 Brushing	0	0	0	0	0	0	#DIV/0!	9
5 Max. density spacing	0	0	0	0	0	0	0	9
6 Studies	0	0	0	0	0	0	0	9
7 Other	0	0	0	0	0	0	0	9
Totals	$1,000	$1,200	$1,100	$0	$0	$50,000	$50	

Appendix 12: Queen Charlotte Islands Forest District
Table F: Habitat Supply Activities
September 30 1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	#DIV/0!	
2 Site preparation	0	0	0	0	0	0	0	
3 Planting	0	0	0	0	0	0	#DIV/0!	
4 Brushing	0	0	0	0	0	0	#DIV/0!	
5 Spacing	0	0	0	0	0	0	#DIV/0!	
6 Pruning	0	0	0	0	0	0	0	
7 Studies	0	0	0	0	0	0	#DIV/0!	
8 Others	0	0	0	0	0	0	0	
Totals	0	0	0	0	0	$0	$0	

See MELP Tables for summaries

Appendix 12: Queen Charlotte Islands Forest District
Summary Table
September 30 1999

Table Totals	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	9,380	8,640	8,720	8,620	8,620	1,579,890	168	
Table B: Stand Tending Activities	3,302	2,202	1,992	1,992	1,982	3,012,950	912	
Table C: Forest Health Enhancement Activities	400	330	330	40	40	289,800	724	
Table D: Forest Health Maintenance Activities	0	0	0	0	0	0	0	
Table E: Current Fire and Pest Activities	1,000	1,200	1,100	0	0	50,000	50	
Table F: Habitat Supply Activities	0	0	0	0	0	0	0	
Totals of all tables	14,082	12,372	12,142	10,652	10,642	4,932,640	350	

Activities Sorted by Priority (Ctl-e)

Table and category			Activity		Five-Year Plan Goals (ha)					Annual Plan 2000/01		
					2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority
A	Backlog	Legal	1	Planning/surveys/presc.	1,860	1,650	1,650	1,650	1,650	113,900	61	1
A	Backlog	Legal	2	Site preparation	0	0	0	0	0	0	#DIV/0!	9
A	Backlog	Legal	3	Planting	0	50	50	50	50	0	#DIV/0!	2
A	Backlog	Legal	4	Brushing	60	0	0	0	0	120,000	2,000	2
A	Backlog	Legal	5	Seed Purchase	0	0	0	0	0	0	#DIV/0!	9
A	Backlog	Legal	6	Max. density spacing	0	0	200	200	200	0	#DIV/0!	9
A	Backlog	Legal	7	Pruning	0	0	0	0	0	0	#DIV/0!	9
A	Backlog	Backlog	1	Planning/surveys/presc.	4,115	4,105	4,050	4,050	4,050	134,100	33	1
A	Backlog	Backlog	2	Site preparation	0	0	0	0	0	0	#DIV/0!	9
A	Backlog	Backlog	3	Site Restoration Road/land.	25	15	10	10	10	32,500	1,300	3
A	Backlog	Backlog	4	Planting	15	115	115	115	115	30,000	2,000	2
A	Backlog	Backlog	5	Brushing	30	110	110	110	110	45,000	1,500	2
A	Backlog	Backlog	6	Seed Purchase	10	110	110	110	110	70	7	2
A	Backlog	Impeded	1	Planning/surveys/presc.	2,615	2,120	2,070	2,070	2,070	103,820	40	1

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
A	Backlog Impeded	2	Site preparation	0	0	0	0	0	0	#DIV/0!	9
A	Backlog Impeded	3	Planting	45	0	0	0	0	90,000	2,000	2
A	Backlog Impeded	4	Brushing	580	340	330	230	230	870,000	1,500	2
A	Backlog Impeded	5	Seed Purchase	0	0	0	0	0	0	#DIV/0!	9
A	Backlog Total	7	Studies	25	25	25	25	25	40,500	1,620	0
B	Stand Tending	1	Planning/surveys/presc.	1,240	1,160	1,060	1,060	1,060	91,700	74	1
B	Stand Tending	2	Spacing	750	680	580	580	580	1,450,000	1,933	2
B	Stand Tending	3	Pruning	177	172	162	162	152	536,000	3,028	4
B	Stand Tending	4	Fertilizing	1,045	105	105	105	105	831,250	795	2
B	Stand Tending	5	Studies	40	40	40	40	40	100,000	2,500	3
B	Stand Tending	6	Other	50	45	45	45	45	4,000	80	3
C	F. H. Enhancement	1	Site rehab	230	220	220	0	0	25,800	112	2
C	F. H. Enhancement	2	Spacing	130	70	70	0	0	260,000	2,000	2
C	F. H. Enhancement	3	Pruning	0	0	0	0	0	0	0	0
C	F. H. Enhancement	4	Studies	40	40	40	40	40	4,000	100	3
C	F. H. Enhancement	5	Others	0	0	0	0	0	0	0	0
D	F. H. Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	0	9
D	F. H. Maintenance	2	Aerial Surveys (hours flying)	0	0	0	0	0	0	#DIV/0!	9
D	F. H. Maintenance	3	Fall & burn treatment (trees)	0	0	0	0	0	0	0	9
D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	9
D	F. H. Maintenance	5	Pheromone baiting (trees)	0	0	0	0	0	0	0	9
D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	9
D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	0	9
D	F. H. Maintenance	8	Other	0	0	0	0	0	0	0	9
E	Current Fire/Pest	1	Planning/surveys/presc.	1,000	1,000	1,000	0	0	50,000	50	1
E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	#DIV/0!	9
E	Current Fire/Pest	3	Planting	0	200	100	0	0	0	#DIV/0!	9
E	Current Fire/Pest	4	Brushing	0	0	0	0	0	0	#DIV/0!	9
E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	9
E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	9
E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	9
F	Habitat Supply	1	Planning/surveys/presc.	0	0	0	0	0	0	#DIV/0!	0
F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	0
F	Habitat Supply	3	Planting	0	0	0	0	0	0	#DIV/0!	0
F	Habitat Supply	4	Brushing	0	0	0	0	0	0	#DIV/0!	0

Table Totals

			Five-Year Plan Goals (ha)					Annual Plan 2000/01		
			2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
F	Habitat Supply	5 Spacing	0	0	0	0	0	0	#DIV/0!	0
F	Habitat Supply	6 Pruning	0	0	0	0	0	0	0	0
F	Habitat Supply	7 Studies	0	0	0	0	0	0	#DIV/0!	0
F	Habitat Supply	8 Others	0	0	0	0	0	0	0	0
									Check totals:	
Totals			14,082	12,372	12,142	10,652	10,642	4,932,640	#DIV/0!	232

Queen Charlotte Timber Supply Area
Table A: Backlog Activities
99/08/16

Legal Obligations

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	460	450	450	450	450	$57,500	$125	1
2	Site preparation	0	0	0	0	0	$0	0	0
3	Planting	0	50	50	50	50	$0	2,000	2
4	Brushing	60	0	0	0	0	$120,000	2,000	2
5	Seed purchase	0	0	0	0	0	$0	0	0
6	Max. density spacing	0	0	200	200	200	$0	2,000	9
7	Pruning	0	0	0	0	0	$0	0	0
	Totals	520	500	700	700	700	177500	$341	

Backlog Reforestation

1	Planning/surveys/prescriptions	15	5	0	0	0	$7,500	$500	1
2	Site preparation	0	0	0	0	0	$0	0	0
3	Site restoration road/land. rehab	15	5	0	0	0	$22,500	1,500	2
4	Planting	0	0	0	0	0	$0	0	0
5	Brushing	0	0	0	0	0	$0	0	0
6	Seed purchase	0	0	0	0	0	$0	0	0
	Totals	30	10	0	0	0	$30,000	$1,000	

Impeded areas

1	Planning/surveys/prescriptions	95	0	0	0	0	$47,500	$500	1
2	Site preparation	0	0	0	0	0	$0	0	0
3	Planting	45	0	0	0	0	$90,000	2,000	2
4	Brushing	120	0	0	0	0	$180,000	1,500	2
5	Seed purchase	0	0	0	0	0	$0	0	0
	Totals	260	0	0	0	0	$317,500	$1,221	

Backlog Activities - Management Unit Total

1	Planning/surveys/prescriptions	570	455	450	450	450	$112,500	$197	
2	Site preparation	0	0	0	0	0	0	#DIV/0!	
3	Site restoration road/land. rehab	15	5	0	0	0	22,500	1,500	
4	Planting	45	50	50	50	50	90,000	2,000	
5	Brushing	180	0	0	0	0	300,000	1,667	
6	Seed purchase	0	0	0	0	0	0	#DIV/0!	
7	Max. density spacing	0	0	200	200	200	0	#DIV/0!	
8	Pruning	0	0	0	0	0	0	#DIV/0!	
9	Studies	0	0	0	0	0	0	0	0
	Totals	810	510	700	700	700	$525,000	$648	

6/29/2005

Queen Charlotte Timber Supply Area
Table B: Stand Tending Activities
99/08/16

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	390	360	360	360	360	$39,000	$100	1
2 Spacing	290	260	260	260	260	$580,000	2,000	1
3 Pruning	100	100	100	100	100	$280,000	2,800	5
4 Fertilizing	25	25	25	25	25	$37,500	1,500	3
5 Studies	0	0	0	0	0	$0	0	0
6 Other	0	0	0	0	0	$0	0	0
Totals	805	745	745	745	745	936500	$1,163	

Queen Charlotte Timber Supply Area
Table C: Forest Health Enhancement Activities
99/08/16

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Site rehab	0	0	0	0	0	$0	$0	0
2 Spacing	0	0	0	0	0	$0	0	0
3 Pruning	0	0	0	0	0	$0	0	0
4 Studies	0	0	0	0	0	$0	0	0
5 Others	0	0	0	0	0	$0	0	0
Totals	0	0	0	0	0	$0	#DIV/0!	

Queen Charlotte Timber Supply Area
Table D: Forest Health Maintenance Activities
99/08/16

	Activities	Units	Five-year Plan Goals (ha)					Annual Plan 2000/01		
			2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Ground Surveys	ha	0	0	0	0	0	$0	$0	0
2	Aerial Surveys	hours of flying time	0	0	0	0	0	$0	0	0
3	Fall and burn treatment	trees	0	0	0	0	0	$0	0	0
4	MSMA treatment	trees	0	0	0	0	0	$0	0	0
5	Pheromone baiting	trees	0	0	0	0	0	$0	0	0
6	Defoliator spraying	ha	0	0	0	0	0	$0	0	0
7	Studies	number	0	0	0	0	0	$0	0	0
8	Other		0	0	0	0	0	$0	0	0
	Totals		0	0	0	0	0	$0	#DIV/0!	

Queen Charlotte Timber Supply Area
Table E: Current Fire and Pest Activities
99/08/16

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	1000	1000	1000	0	0	$50,000	$50	1
2 Site preparation	0	0	0	0	0	$0	0	0
3 Planting	0	200	100	0	0	$0	1,000	1
4 Brushing	0	0	0	0	0	$0	0	0
5 Max. density spacing	0	0	0	0	0	$0	0	0
6 Studies	0	0	0	0	0	$0	0	0
7 Other	0	0	0	0	0	$0	0	0
Totals	$1,000	$1,200	$1,100	$0	$0	$50,000	$50	

Queen Charlotte Timber Supply Area
Table F: Habitat Supply Activities
99/08/16

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2 Site preparation	0	0	0	0	0	$0	0	0
3 Planting	0	0	0	0	0	$0	0	0
4 Brushing	0	0	0	0	0	$0	0	0
5 Spacing	0	0	0	0	0	$0	0	0
6 Pruning	0	0	0	0	0	$0	0	0
7 Studies	0	0	0	0	0	$0	0	0
8 Others	0	0	0	0	0	$0	0	0
Totals	0	0	0	0	0	$0	#DIV/0!	

Queen Charlotte Timber Supply Area
Summary Table
99/08/16

	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
Table Totals	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	810	510	700	700	700	525,000	648	
Table B: Stand Tending Activities	805	745	745	745	745	936,500	1,163	
Table C: Forest Health Enhancement Activities	0	0	0	0	0	0	#DIV/0!	
Table D: Forest Health Maintenance Activities	0	0	0	0	0	0	#DIV/0!	
Table E: Current Fire and Pest Activities	1,000	1,200	1,100	0	0	50,000	50	
Table F: Habitat Supply Activities	0	0	0	0	0	0	#DIV/0!	
Totals of all tables	2,615	2,455	2,545	1,445	1,445	1,511,500	578	

Activities Sorted by Priority (Ctl-e)

Table and category			**Activity**		Five-Year Plan Goals (ha)					Annual Plan 2000/01		
					2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority
A	Backlog	Legal	1	Planning/surveys/presc.	460	450	450	450	450	57,500	125	1
A	Backlog	Legal	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog	Legal	3	Planting	0	50	50	50	50	0	2,000	2
A	Backlog	Legal	4	Brushing	60	0	0	0	0	120,000	2,000	2
A	Backlog	Legal	5	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog	Legal	6	Max. density spacing	0	0	200	200	200	0	2,000	9
A	Backlog	Legal	7	Pruning	0	0	0	0	0	0	0	0
A	Backlog	Backlog	1	Planning/surveys/presc.	15	5	0	0	0	7,500	500	1
A	Backlog	Backlog	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog	Backlog	3	Site Restoration Road/land.	15	5	0	0	0	22,500	1,500	2
A	Backlog	Backlog	4	Planting	0	0	0	0	0	0	0	0
A	Backlog	Backlog	5	Brushing	0	0	0	0	0	0	0	0
A	Backlog	Backlog	6	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog	Impeded	1	Planning/surveys/presc.	95	0	0	0	0	47,500	500	1

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
A	Backlog Impeded	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog Impeded	3	Planting	45	0	0	0	0	90,000	2,000	2
A	Backlog Impeded	4	Brushing	120	0	0	0	0	180,000	1,500	2
A	Backlog Impeded	5	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog Total	7	Studies	0	0	0	0	0	0	0	0
B	Stand Tending	1	Planning/surveys/presc.	390	360	360	360	360	39,000	100	1
B	Stand Tending	2	Spacing	290	260	260	260	260	580,000	2,000	1
B	Stand Tending	3	Pruning	100	100	100	100	100	280,000	2,800	5
B	Stand Tending	4	Fertilizing	25	25	25	25	25	37,500	1,500	3
B	Stand Tending	5	Studies	0	0	0	0	0	0	0	0
B	Stand Tending	6	Other	0	0	0	0	0	0	0	0
C	F. H. Enhancement	1	Site rehab	0	0	0	0	0	0	0	0
C	F. H. Enhancement	2	Spacing	0	0	0	0	0	0	0	0
C	F. H. Enhancement	3	Pruning	0	0	0	0	0	0	0	0
C	F. H. Enhancement	4	Studies	0	0	0	0	0	0	0	0
C	F. H. Enhancement	5	Others	0	0	0	0	0	0	0	0
D	F. H. Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	2	Aerial Surveys (hours flying)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	3	Fall & burn treatment (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	5	Pheromone baiting (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	8	Other	0	0	0	0	0	0	0	0
E	Current Fire/Pest	1	Planning/surveys/presc.	1,000	1,000	1,000	0	0	50,000	50	1
E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	0	0
E	Current Fire/Pest	3	Planting	0	200	100	0	0	0	1,000	1
E	Current Fire/Pest	4	Brushing	0	0	0	0	0	0	0	0
E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	0
E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	0
E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	0
F	Habitat Supply	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	0
F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	0
F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	0

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
F	Habitat Supply	5	Spacing	0	0	0	0	0	0	0	0
F	Habitat Supply	6	Pruning	0	0	0	0	0	0	0	0
F	Habitat Supply	7	Studies	0	0	0	0	0	0	0	0
F	Habitat Supply	8	Others	0	0	0	0	0	0	0	0
										Check totals:	
Totals				2,615	2,455	2,545	1,445	1,445	1,511,500	19,575	34

Appendix 13

TFL/TSA AAC by Forest District

TFL/TSA	Total AAC	%	DCK	%	DSQ	%	DSC	%	DSI	%	DCR	%	DPM	%	MC	%	DQC	%
TFL6-WFP	1490000												1490000	7.7%				
TFL19-WFP	978000										978000	5.1%						
TFL25-WFP	592000								175000	0.9%	147000	0.8%			155000	0.8%	115000	0.6%
TFL10-IFP	170950						170950	0.9%										
TFL38-IFP	250500				250500	1.3%												
TFL45-IFP	220000										20000	0.1%	200000	1.0%				
TFL54-IFP	75750								75750	0.4%								
TFL26-MISS	45000		45000	0.2%														
TFL37-CFP	1068000												1068000	5.5%				
TFL39-MB	3700000						445000	2.3%			1435000	7.4%	415000	2.2%	195000	1.0%	1210000	6.3%
TFL44-MB	1890000								1890000	9.8%								
TFL46-TFL	482740								482740	2.5%								
TFL47-TFL	725000										425000	2.2%	200000	1.0%			100000	0.5%
TFL Total	11687940	60.6%	45000		250500		615950		2623490		3005000		3373000		350000		1425000	
Midcoast	1000000														1000000	5.2%		
QCI	475000																475000	
Fraser	1270000		1270000	6.6%														
Soo	506000				506000	2.6%												
Kingcome	1399000												1399000	7.2%				
Strathcona	1420000										1420000	7.4%						
Arrowsmith	400000								400000	2.1%								
Sshine Cst	1140000						1140000	5.9%										
TSA Total	7610000	39.4%	1270000		506000		1140000		400000		1420000		1399000		1000000		475000	2.5%
Grand Tot	19297940	100.0%	1315000	6.8%	756500	3.9%	1755950	9.1%	3023490	15.7%	4425000	22.9%	4772000	24.7%	1350000	7.0%	1900000	9.8%

TFL/TSA Falldown Effect

TFL/TSA	Total AAC	LTHL	difference	LTHL/AAC%	LTHL/grand
TFL6-WFP	1490000	1148780	-341220	77%	1.8%
TFL19-WFP	978000	833000	-145000	85%	0.8%
TFL25-WFP	592000	665095	73095	112%	
TFL10-IFP	170950	110000	-60950	64%	0.3%
TFL38-IFP	250500	125000	-125500	50%	0.7%
TFL45-IFP	220000	185100	-34900	84%	0.2%
TFL54-IFP	75750	75750	0	100%	
TFL26-MISS	45000	48000	3000	107%	
TFL37-CFP	1068000	1172100	104100	110%	
TFL39-MB	3700000	3236000	-464000	87%	2.4%
TFL44-MB	1890000	1701000	-189000	90%	1.0%
TFL46-TFL	482740	482740	0	100%	
TFL47-TFL	725000	1093295	368295	151%	
TFL Total	11687940	10875860	-812080	93%	
Midcoast	1000000	550000	-450000	55%	2.3%
QCI	475000	248000	-227000	52%	1.2%
Fraser	1270000	1200000	-70000	94%	0.4%
Soo	506000	442000	-64000	87%	0.3%
Kingcome	1399000	936600	-462400	67%	2.4%
Strathcona	1420000	1088250	-331750	77%	1.7%
Arrowsmith	400000	337000	-63000	84%	0.3%
Sshine Cst	1140000	986000	-154000	86%	0.8%
TSA Total	7610000	5787850	-1822150	76%	
Grand Tot	19297940	16663710			

APPENDIX 14: Regional Activity Summary on Crown land 1991/92 to 1996/97

Year	spacing ha	fertilization ha	pruning ha
91/92	10,273	7,451	1,432
92/93	9,600	4,565	1,343
93/94	10,944	3,758	2,506
94/95	10,936	4,732	2,696
95/96	6,853	5,178	2,191
96/97	9,998	14,263	2,927

APPENDIX 15 : REGION COMMUNICATION LOG

Communication Log for the Sustainable Harvest Objective

Date	Name	Representing	Communication Method	Comments/Issues
06/23/99	All MYP reps TFL	All MYP reps TFL	sent e-mail	initial contact re RMP and type 1 &2 interest
06/25/99	All MYP reps TFL	All MYP reps TFL	sent e-mail	sent copy of SH tables
06/30/99	Kim Allen	Mission TFL	sent e-mail	sent copy of SH tables
07/07/99/	Ian Robertson	IFP	phone out	Review RMP process, any questions, type 1&2 interes
07/07/99	Derek Ferguson	MB	phone out	Review RMP process, any questions, type 1&2 interes
07/07/99	Dave Harrison	CFP	phone out	Review RMP process, any questions, type 1&2 interes
07/07/99	All MYP reps TFL	All MYP reps TFL	sent e-mail	Copy of latest Planning Framework and Appendix 1 sent
07/08/99	G Bracher, C Wood	MELP	meeting	Review MELP participation
07/08/99	Dave Harrison	CFP	received e-mail	interest re partial modelling analysis
07/09/99	Diane Medves	MB	received e-mail	concern over early deadline and extension possibility
07/09/99	Diane Medves	MB	phone out	deadline may be extended, type 1&2 interest
07/13/99	All MYP reps	All MYP reps	e-mail	table template and instructions for completion/timelines
07/13/99	all district reps	MoF	e-mail	table template and instructions for completion/timelines
07/15/99	Kerry McGourlik	WFP	e-mail	clarifying backlog table section - legal obligations
07/19/99	Norm Caldicott	TFL	phone-in	review RMP process and type 1 &2 analysis
07/19/99	Kerry McGourlik	WFP	phone-in	review RMP process and type 1 &2 analysis
07/19/99	Ian Robertson	IFP	phone-in	review RMP timelines and Type 1 analysis
08/09/99	Ian Robertson	IFP	phone-in	review extension of timelines and template submissions
09/09/99	All MYP reps	All MYP reps	meeting	review draft, priority by district, performance values criteria
09/15/99	Ken Hall	IFP	e-mail in	setting of district priorities, performance measures values
09/21/99	All MYP reps	All MYP reps	e-mail out	comments on draft and RMP process
09/22/99	Ian Robertson	IFP	phone in	no changes to the numbers
09/23/99	Norm Caldicott	TFL	phone in	generally okay, consider financial analysis in future perf. measures
09/24/99	Diane Medves	MB	discussion	clarification of district priority application, perf. measures

APPENDIX 15: DISTRICT COMMUNICATION LOG

Chilliwack Forest District

Date	Name	Representing	Communication Method	Comments/Issues
08/11/99	licensees, MELP First Nations, district	Ministry of Forestrs	fax	Draft activity summary tables faxed to District Resource management Planning group (including Licensee's, Ministry of Environment, and First nations) requesting review and comment.
08/12/99	Greg George	MELP	E-mail in	Was wondering how the summary tables were developed. Was wondering why the habitat Supply Activity Tables are Blank. Greg believes that some spacing should be done to promote future deer winter range and to maintain current deer spring range
08/16/99	Greg George	MELP	E-mail out	E-mail sent to Greg George explaing that majority of spacing occurs on low elevation high site Fd stands. SMPs follow the joint guidelines produced in 1997 on how to manage for Deer spring and winter range.

Sunshine Coast Forest District

Date	Name	Representing	Communication Method	Comments/Issues
JULY27/9	Dave Minhas	Scott Paper TFL 43	Phone	No FRBC Program Pl ans for next year
July27/99	John Clark	Terminal F.P. FL	Phone	Agree with District FRBC Treatment Regime and Priorities
July29/99	Dennis Lozinsky	Interfor FL	Direct Communicatior	Agree with District FRBC Treatment Regime and Priorities
July29/99	Warren Hansen	Canfor FL	Direct Communicatior	Agree with District FRBC Treatment Regime and Priorities
August4/9	Murray Watkinson	Western FP FL	Phone	Agree with District FRBC Treatment Regime and Priorities
August5/9	Rod Tysdal	M&B TFL 39	Phone	Agree with District FRBC Treatment Regime and Priorities

Port McNeill Forest District

Date	Name	Representing	Communication Method	Comments/Issues
	Port McNeill			
08/31/99	Jim Hunt	MacMillan Bloedel Ltd	Telephone	Was curious if there was anymore info to their write up
08/31/99	Kerry McGourlick	Western Forest Produ	Telephone	We were sent mid-coasts spread sheet, but we needed Port McNeill's
08/31/99	Ian Robertson	International Forest P	Telephone	Had not received IFP's submission
07/27/99	Ian Robertson	International Forest P	Letter	General RMP submission instruction letter
07/27/99	Kerry McGourlick	Western Forest Produ	Letter	General RMP submission instruction letter
07/27/99	Jim Hunt	MacMillan Bloedel Ltd	Letter	General RMP submission instruction letter
07/27/99	Al Barber	Canadian Forest Prod	Letter	General RMP submission instruction letter
07/27/99	Norm Caldicott	TFL Forest Ltd	Letter	General RMP submission instruction letter

Mid Coast Forest District

Date	Name	Representing	Communication Method	Comments/Issues
08/05/99	Ian Robertson	IFP	letter	telephone coversation with Ian to confirm his receipt and clarify his request
08/05/99	Ken Hall		letter	called Ken to confirm receipt and clarify request

Squamish Forest District

Date	Name	Representing	Communication Method	Comments/Issues
30/07/99	Bernice Patterson	CRB Logging	E-mail	Question regarding rehabilitation of Pl stands to Fd stands. Suggest dropping some spacing and owl habitat enhancement in favor of aerial fertilizatio
05/08/99	Murray Watkinson	Western FP Ltd.	Fax	Suggested ranking backlog NSR planting and brushing ahead of aerial fertilization.
06/08/99	John Clarke	Terminal FP Ltd.	Fax	Agreed with last year's ranking of priorities. Reported on his costs for backlog planting and brushing

Date	Name	Representing	Communication Method	Comments/Issues
09/09/99	N Caldicott	TFL	email	submission, will comment on closer review
08/08/99	N caldicott	TFI	email	submitted TFLs data sheets
10/08/99	N Caldicott	TFL	email	request clarification on several points
10/08/99	N Caldicott	TFL	email	request change of priorities to 1-5 as per instructions
11/08/99	N Caldicott	TFL	email	responded to inquiries
17/08/99	Cees van Oosten	MB	email	MBs EF/backlog data
17/08/99	Cees van Oesten	MB	personal visit	data discussion, moved brushing to impeded for backlog
17/08/99	Cees van Oesten	MB	phone	request copy of changes. D Medves to respond to RMP writeup
19/08/99	W Wartig	IFP	email	RMP data inquiry
19/08/99	K Hall	WFP	email	RMP data inquiry
20/08/99	I Robertson	IFP	email	re plan submission deadline
20/08/99	I Robertson	IFP	email	re regime table and written rationale for priority ranking
20/08/99	Cees van Oesten	MB	email	re regime table and written rationale for priority ranking
20/08/99	K Hall	WFP	email	re regime table and written rationale for priority ranking
20/08/99	N Caldicott	TFL	email	re regime table and written rationale for priority ranking
23/08/99	I Robertson	IFP	email/phone	electronic version and opening
25/08/99	L Sigurdson	Region	email/phone	electronic version of IFP forwarded
26/08/99	I Robertson	IFP	email	clarify backlog brushing as impeded, and $3800/ha spacing cost ration
26/08/99	I Robertson	IFP	email	should be impeded and $2600/ha
09/09/99	K Hall	WFP	email	refer to block 1 in written portion
10/09/99	K Hall	WFP	phone	wiil discuss with forester re written strategy for block 1

APPENDIX 16

TREE FARM LICENCE PLANS

TFL 6	Western Forest Products
TFL 10	Sunshine Coast District
TFL 25	
TFL 26	Mission
TFL 37	Canadian Forest Products
TFL 38	Squamish District
TFL 39	MacMillan Bloedel
TFL 44	
TFL 45	Campbell River District
TFL 45	Port McNeill District
TFL 46	
TFL 47	Port McNeill Forest District
TFL 54	South Island District

TFL 6, Western Forest Products
Table A: Backlog Activities
36383

Legal Obligations

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2	Site preparation	0	0	0	0	0	$0	0	0
3	Planting	0	0	0	0	0	$0	0	0
4	Brushing	0	0	0	0	0	$0	0	0
5	Seed purchase	0	0	0	0	0	$0	0	0
6	Max. density spacing	0	0	0	0	0	$0	0	0
7	Pruning	0	0	0	0	0	$0	0	0
	Totals	0	0	0	0	0	0	#DIV/0!	

Backlog Reforestation

1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2	Site preparation	0	0	0	0	0	$0	0	0
3	Site restoration road/land. rehab	0	0	0	0	0	$0	0	0
4	Planting	0	0	0	0	0	$0	0	0
5	Brushing	0	0	0	0	0	$0	0	0
6	Seed purchase	0	0	0	0	0	$0	0	0
	Totals	0	0	0	0	0	$0	#DIV/0!	

Impeded areas

1	Planning/surveys/prescriptions	912	500	250	250	250	$46,512	$51	1
2	Site preparation	0	0	0	0	0	$0	0	0
3	Planting	11	10	0	0	0	$9,900	900	1
4	Brushing	544	500	250	250	250	$326,400	600	1
5	Seed purchase	0	0	0	0	0	$0	0	0
	Totals	1467	1010	500	500	500	$382,812	$261	

Backlog Activities - Management Unit Total

1	Planning/surveys/prescriptions	912	500	250	250	250	$46,512	$51	
2	Site preparation	0	0	0	0	0	0	#DIV/0!	
3	Site restoration road/land. rehab	0	0	0	0	0	0	#DIV/0!	
4	Planting	11	10	0	0	0	9,900	900	
5	Brushing	544	500	250	250	250	326,400	600	
6	Seed purchase	0	0	0	0	0	0	#DIV/0!	
7	Max. density spacing	0	0	0	0	0	0	#DIV/0!	
8	Pruning	0	0	0	0	0	0	#DIV/0!	
9	Studies	0	0	0	0	0	0	0	0
	Totals	1467	1010	500	500	500	$382,812	$261	

6/29/2005

TFL 6, Western Forest Products
Table B: Stand Tending Activities
36383

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	520	2220	2220	2220	2220	$65,000	$125	1
2 Spacing	109	350	350	350	350	$277,950	2,550	3
3 Pruning	116	350	350	350	350	$295,800	2,550	3
4 Fertilizing	1214	1500	1500	1500	1500	$546,300	450	1
5 Studies	0	0	0	0	0	$0	0	0
6 Other	20	20	20	20	20	$40,000	2,000	3
Totals	1979	4440	4440	4440	4440	1225050	$619	

TFL 6, Western Forest Products
Table C: Forest Health Enhancement Activities
36383

	Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Site rehab	0	0	0	0	0	$0	$0	0
2	Spacing	0	0	0	0	0	$0	0	0
3	Pruning	0	0	0	0	0	$0	0	0
4	Studies	0	0	0	0	0	$0	0	0
5	Others	0	0	0	0	0	$0	0	0
	Totals	0	0	0	0	0	$0	#DIV/0!	

TFL 6, Western Forest Products
Table D: Forest Health Maintenance Activities
36383

			Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	**Units**	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Ground Surveys	ha	0	0	0	0	0	$0	$0	0
2	Aerial Surveys	hours of flying time	0	0	0	0	0	$0	0	0
3	Fall and burn treatment	trees	0	0	0	0	0	$0	0	0
4	MSMA treatment	trees	0	0	0	0	0	$0	0	0
5	Pheromone baiting	trees	0	0	0	0	0	$0	0	0
6	Defoliator spraying	ha	0	0	0	0	0	$0	0	0
7	Studies	number	0	0	0	0	0	$0	0	0
8	Other		0	0	0	0	0	$0	0	0
	Totals		0	0	0	0	0	$0	#DIV/0!	

TFL 6, Western Forest Products
Table E: Current Fire and Pest Activities
36383

	Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2	Site preparation	0	0	0	0	0	$0	0	0
3	Planting	0	0	0	0	0	$0	0	0
4	Brushing	0	0	0	0	0	$0	0	0
5	Max. density spacing	0	0	0	0	0	$0	0	0
6	Studies	0	0	0	0	0	$0	0	0
7	Other	0	0	0	0	0	$0	0	0
	Totals	$0	$0	$0	$0	$0	$0	#DIV/0!	

TFL 6, Western Forest Products
Table F: Habitat Supply Activities
36383

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	40	0	0	0	0	$6,000	$150	1
2 Site preparation	0	0	0	0	0	$0	0	0
3 Planting	0	0	0	0	0	$0	0	0
4 Brushing	0	0	0	0	0	$0	0	0
5 Spacing	0	40	0	0	0	$0	2,550	3
6 Pruning	0	0	0	0	0	$0	0	0
7 Studies	0	0	0	0	0	$0	0	0
8 Others	0	0	0	0	0	$0	0	0
Totals	40	40	0	0	0	$6,000	$150	

TFL 6, Western Forest Products
Summary Table
36383

	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
Table Totals	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	1,467	1,010	500	500	500	382,812	261	
Table B: Stand Tending Activities	1,979	4,440	4,440	4,440	4,440	1,225,050	619	
Table C: Forest Health Enhancement Activities	0	0	0	0	0	0	#DIV/0!	
Table D: Forest Health Maintenance Activities	0	0	0	0	0	0	#DIV/0!	
Table E: Current Fire and Pest Activities	0	0	0	0	0	0	#DIV/0!	
Table F: Habitat Supply Activities	40	40	0	0	0	6,000	150	
Totals of all tables	3,486	5,490	4,940	4,940	4,940	1,613,862	463	

Activities Sorted by Priority (Ctl-e)

					Five-Year Plan Goals (ha)					Annual Plan 2000/01		
Table and category			**Activity**		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority
A	Backlog	Legal	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
A	Backlog	Legal	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog	Legal	3	Planting	0	0	0	0	0	0	0	0
A	Backlog	Legal	4	Brushing	0	0	0	0	0	0	0	0
A	Backlog	Legal	5	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog	Legal	6	Max. density spacing	0	0	0	0	0	0	0	0
A	Backlog	Legal	7	Pruning	0	0	0	0	0	0	0	0
A	Backlog	Backlog	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
A	Backlog	Backlog	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog	Backlog	3	Site Restoration Road/land.	0	0	0	0	0	0	0	0
A	Backlog	Backlog	4	Planting	0	0	0	0	0	0	0	0
A	Backlog	Backlog	5	Brushing	0	0	0	0	0	0	0	0
A	Backlog	Backlog	6	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog	Impeded	1	Planning/surveys/presc.	912	500	250	250	250	46,512	51	1

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
A	Backlog Impeded	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog Impeded	3	Planting	11	10	0	0	0	9,900	900	1
A	Backlog Impeded	4	Brushing	544	500	250	250	250	326,400	600	1
A	Backlog Impeded	5	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog Total	7	Studies	0	0	0	0	0	0	0	0
B	Stand Tending	1	Planning/surveys/presc.	520	2,220	2,220	2,220	2,220	65,000	125	1
B	Stand Tending	2	Spacing	109	350	350	350	350	277,950	2,550	3
B	Stand Tending	3	Pruning	116	350	350	350	350	295,800	2,550	3
B	Stand Tending	4	Fertilizing	1,214	1,500	1,500	1,500	1,500	546,300	450	1
B	Stand Tending	5	Studies	0	0	0	0	0	0	0	0
B	Stand Tending	6	Other	20	20	20	20	20	40,000	2,000	3
C	F. H. Enhancement	1	Site rehab	0	0	0	0	0	0	0	0
C	F. H. Enhancement	2	Spacing	0	0	0	0	0	0	0	0
C	F. H. Enhancement	3	Pruning	0	0	0	0	0	0	0	0
C	F. H. Enhancement	4	Studies	0	0	0	0	0	0	0	0
C	F. H. Enhancement	5	Others	0	0	0	0	0	0	0	0
D	F. H. Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	2	Aerial Surveys (hours flying)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	3	Fall & burn treatment (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	5	Pheromone baiting (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	8	Other	0	0	0	0	0	0	0	0
E	Current Fire/Pest	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	0	0
E	Current Fire/Pest	3	Planting	0	0	0	0	0	0	0	0
E	Current Fire/Pest	4	Brushing	0	0	0	0	0	0	0	0
E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	0
E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	0
E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	0
F	Habitat Supply	1	Planning/surveys/presc.	40	0	0	0	0	6,000	150	1
F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	0
F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	0
F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	0

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
F	Habitat Supply	5	Spacing	0	40	0	0	0	0	2,550	3
F	Habitat Supply	6	Pruning	0	0	0	0	0	0	0	0
F	Habitat Supply	7	Studies	0	0	0	0	0	0	0	0
F	Habitat Supply	8	Others	0	0	0	0	0	0	0	0
										Check totals:	
Totals				3,486	5,490	4,940	4,940	4,940	1,613,862	11,926	18

TFL 10, Sunshine Coast District
Table A: Backlog Activities
August 17,1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
Legal Obligations	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2 Site preparation	0	0	0	0	0	$0	0	0
3 Planting	0	0	0	0	0	$0	0	0
4 Brushing	0	0	0	0	0	$0	0	0
5 Seed purchase	0	0	0	0	0	$0	0	0
6 Max. density spacing	0	0	0	0	0	$0	0	0
7 Pruning	0	0	0	0	0	$0	0	0
Totals	0	0	0	0	0	0	#DIV/0!	

Backlog Reforestation

1 Planning/surveys/prescriptions	200	0	200	200	200	$13,000	$65	1
2 Site preparation	0	0	0	0	0	$0	0	0
3 Site restoration road/land. rehab	0	0	0	0	0	$0	0	0
4 Planting	0	0	0	0	0	$0	0	0
5 Brushing	0	0	0	0	0	$0	0	0
6 Seed purchase	0	0	0	0	0	$0	0	0
Totals	200	0	200	200	200	$13,000	$65	

Impeded areas

1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2 Site preparation	0	0	0	0	0	$0	0	0
3 Planting	0	0	0	0	0	$0	0	0
4 Brushing	0	0	0	0	0	$0	0	0
5 Seed purchase	0	0	0	0	0	$0	0	0
Totals	0	0	0	0	0	$0	#DIV/0!	

Backlog Activities - Management Unit Total

1 Planning/surveys/prescriptions	200	0	200	200	200	$13,000	$65	
2 Site preparation	0	0	0	0	0	0	#DIV/0!	
3 Site restoration road/land. rehab	0	0	0	0	0	0	#DIV/0!	
4 Planting	0	0	0	0	0	0	#DIV/0!	
5 Brushing	0	0	0	0	0	0	#DIV/0!	
6 Seed purchase	0	0	0	0	0	0	#DIV/0!	
7 Max. density spacing	0	0	0	0	0	0	#DIV/0!	
8 Pruning	0	0	0	0	0	0	#DIV/0!	
9 Studies	0	0	0	0	0	0	0	0
Totals	200	0	200	200	200	$13,000	$65	

TFL 10, Sunshine Coast District
Table B: Stand Tending Activities
August 17,1999

	Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	300	300	0	0	$0	$0	0
2	Spacing	0	100	100	100	0	$0	0	0
3	Pruning	0	0	50	50	0	$0	0	0
4	Fertilizing	0	0	100	100	0	$0	0	0
5	Studies	0	0	0	0	0	$0	0	0
6	Other	0	0	0	0	0	$0	0	0
	Totals	0	400	550	250	0	0	#DIV/0!	

TFL 10, Sunshine Coast District
Table C: Forest Health Enhancement Activities
August 17,1999

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Site rehab	0	0	0	0	0	$0	$0	0
2 Spacing	0	0	0	0	0	$0	0	0
3 Pruning	0	0	0	0	0	$0	0	0
4 Studies	0	0	0	0	0	$0	0	0
5 Others	0	0	0	0	0	$0	0	0
Totals	0	0	0	0	0	$0	#DIV/0!	

TFL 10, Sunshine Coast District
Table D: Forest Health Maintenance Activities
August 17,1999

			Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	**Units**	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Ground Surveys	ha	0	0	0	0	0	$0	$0	0
2	Aerial Surveys	hours of flying time	0	0	0	0	0	$0	0	0
3	Fall and burn treatment	trees	0	0	0	0	0	$0	0	0
4	MSMA treatment	trees	0	0	0	0	0	$0	0	0
5	Pheromone baiting	trees	0	0	0	0	0	$0	0	0
6	Defoliator spraying	ha	0	0	0	0	0	$0	0	0
7	Studies	number	0	0	0	0	0	$0	0	0
8	Other		0	0	0	0	0	$0	0	0
	Totals		0	0	0	0	0	$0	#DIV/0!	

TFL 10, Sunshine Coast District
Table E: Current Fire and Pest Activities
August 17,1999

	Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2	Site preparation	0	0	0	0	0	$0	0	0
3	Planting	0	0	0	0	0	$0	0	0
4	Brushing	0	0	0	0	0	$0	0	0
5	Max. density spacing	0	0	0	0	0	$0	0	0
6	Studies	0	0	0	0	0	$0	0	0
7	Other	0	0	0	0	0	$0	0	0
	Totals	$0	$0	$0	$0	$0	$0	#DIV/0!	

TFL 10, Sunshine Coast District
Table F: Habitat Supply Activities
August 17,1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2 Site preparation	0	0	0	0	0	$0	0	0
3 Planting	0	0	0	0	0	$0	0	0
4 Brushing	0	0	0	0	0	$0	0	0
5 Spacing	0	0	0	0	0	$0	0	0
6 Pruning	0	0	0	0	0	$0	0	0
7 Studies	0	0	0	0	0	$0	0	0
8 Others	0	0	0	0	0	$0	0	0
Totals	0	0	0	0	0	$0	#DIV/0!	

TFL 10, Sunshine Coast District
Summary Table
August 17,1999

Table Totals	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	200	0	200	200	200	13,000	65	
Table B: Stand Tending Activities	0	400	550	250	0	0	#DIV/0!	
Table C: Forest Health Enhancement Activities	0	0	0	0	0	0	#DIV/0!	
Table D: Forest Health Maintenance Activities	0	0	0	0	0	0	#DIV/0!	
Table E: Current Fire and Pest Activities	0	0	0	0	0	0	#DIV/0!	
Table F: Habitat Supply Activities	0	0	0	0	0	0	#DIV/0!	
Totals of all tables	200	400	750	450	200	13,000	65	

Activities Sorted by Priority (Ctl-e)

Table and category			Activity		Five-Year Plan Goals (ha)					Annual Plan 2000/01		
					2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority
A	Backlog	Legal	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
A	Backlog	Legal	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog	Legal	3	Planting	0	0	0	0	0	0	0	0
A	Backlog	Legal	4	Brushing	0	0	0	0	0	0	0	0
A	Backlog	Legal	5	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog	Legal	6	Max. density spacing	0	0	0	0	0	0	0	0
A	Backlog	Legal	7	Pruning	0	0	0	0	0	0	0	0
A	Backlog	Backlog	1	Planning/surveys/presc.	200	0	200	200	200	13,000	65	1
A	Backlog	Backlog	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog	Backlog	3	Site Restoration Road/land.	0	0	0	0	0	0	0	0
A	Backlog	Backlog	4	Planting	0	0	0	0	0	0	0	0
A	Backlog	Backlog	5	Brushing	0	0	0	0	0	0	0	0
A	Backlog	Backlog	6	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog	Impeded	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
A	Backlog Impeded	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog Impeded	3	Planting	0	0	0	0	0	0	0	0
A	Backlog Impeded	4	Brushing	0	0	0	0	0	0	0	0
A	Backlog Impeded	5	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog Total	7	Studies	0	0	0	0	0	0	0	0
B	Stand Tending	1	Planning/surveys/presc.	0	300	300	0	0	0	0	0
B	Stand Tending	2	Spacing	0	100	100	100	0	0	0	0
B	Stand Tending	3	Pruning	0	0	50	50	0	0	0	0
B	Stand Tending	4	Fertilizing	0	0	100	100	0	0	0	0
B	Stand Tending	5	Studies	0	0	0	0	0	0	0	0
B	Stand Tending	6	Other	0	0	0	0	0	0	0	0
C	F. H. Enhancement	1	Site rehab	0	0	0	0	0	0	0	0
C	F. H. Enhancement	2	Spacing	0	0	0	0	0	0	0	0
C	F. H. Enhancement	3	Pruning	0	0	0	0	0	0	0	0
C	F. H. Enhancement	4	Studies	0	0	0	0	0	0	0	0
C	F. H. Enhancement	5	Others	0	0	0	0	0	0	0	0
D	F. H. Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	2	Aerial Surveys (hours flying)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	3	Fall & burn treatment (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	5	Pheromone baiting (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	8	Other	0	0	0	0	0	0	0	0
E	Current Fire/Pest	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	0	0
E	Current Fire/Pest	3	Planting	0	0	0	0	0	0	0	0
E	Current Fire/Pest	4	Brushing	0	0	0	0	0	0	0	0
E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	0
E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	0
E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	0
F	Habitat Supply	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	0
F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	0
F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	0

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
F	Habitat Supply	5	Spacing	0	0	0	0	0	0	0	0
F	Habitat Supply	6	Pruning	0	0	0	0	0	0	0	0
F	Habitat Supply	7	Studies	0	0	0	0	0	0	0	0
F	Habitat Supply	8	Others	0	0	0	0	0	0	0	0
										Check totals:	
Totals				200	400	750	450	200	13,000	65	1

TFL 25
Summary Table
August 5, 1999

	Activities Sorted by Priority					Five-Year Plan Goals (ha)						Annual Plan 2000/01			
Management	Table and category				Activity	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005		Funding ($000)	Unit Cost ($)	Man. Priorit	Regional Priority
Tree Farm Li	A	Backlog	Legal	1	Planning/surveys/presc.	229	40	25	25	25		$15,252	60,69	1,4	
Tree Farm Li	A	Backlog	Legal	2	Site preparation	140	35	35	35	35		$114,520	818	4	
Tree Farm Li	A	Backlog	Legal	3	Planting										
Tree Farm Li	A	Backlog	Legal	4	Brushing										
Tree Farm Li	A	Backlog	Legal	5	Seed Purchase										
Tree Farm Li	A	Backlog	Legal	6	Max. density spacing										
Tree Farm Li	A	Backlog	Legal	7	Pruning										
Tree Farm Li	A	Backlog	Backlog	1	Planning/surveys/presc.	118	15					$5,900	50	1	
Tree Farm Li	A	Backlog	Backlog	2	Site preparation										
Tree Farm Li	A	Backlog	Backlog	3	Site Restoration Road/land. rehab										
Tree Farm Li	A	Backlog	Backlog	4	Planting										
Tree Farm Li	A	Backlog	Backlog	5	Brushing	20						$40,000	2000	1	
Tree Farm Li	A	Backlog	Backlog	6	Seed Purchase										
Tree Farm Li	A	Backlog	Impeded	1	Planning/surveys/presc.	562	115	65	65	65		$18,100	30/50	1,2	
Tree Farm Li	A	Backlog	Impeded	2	Site preparation										
Tree Farm Li	A	Backlog	Impeded	3	Planting										
Tree Farm Li	A	Backlog	Impeded	4	Brushing	58	40	30	30	30		$78,600	450/1500	1,2	
Tree Farm Li	A	Backlog	Impeded	5	Seed Purchase										
Tree Farm Li	A	Backlog	Total	7	Studies										
Tree Farm Li	B	Stand Tending		1	Planning/surveys/presc.	500	300	300	500	200		$58,750	125/110	1,2	
Tree Farm Li	B	Stand Tending		2	Spacing	270	220	170	170	330		$501,000	2550/1800	2,3	
Tree Farm Li	B	Stand Tending		3	Pruning	143	115	165	165	205		$418,000	2000/2550/4000/3500	1,2	
Tree Farm Li	B	Stand Tending		4	Fertilizing	1610	800	23		200		$985,750	450/600/725	1,2	
Tree Farm Li	B	Stand Tending		5	Studies										
Tree Farm Li	B	Stand Tending		6	Other										
Tree Farm Li	C	F. H. Enhancement		1	Site rehab										
Tree Farm Li	C	F. H. Enhancement		2	Spacing										
Tree Farm Li	C	F. H. Enhancement		3	Pruning										

Tree Farm Li	C	F. H. Enhancement	4	Studies										
Tree Farm Li	C	F. H. Enhancement	5	Others										
Tree Farm Li	D	F. H. Maintenance	1	Ground Surveys (ha)										
Tree Farm Li	D	F. H. Maintenance	2	Aerial Surveys (hours flying)										
Tree Farm Li	D	F. H. Maintenance	3	Fall & burn treatment (trees)										
Tree Farm Li	D	F. H. Maintenance	4	MSMA treatment (trees)										
Tree Farm Li	D	F. H. Maintenance	5	Pheromone baiting (trees)										
Tree Farm Li	D	F. H. Maintenance	6	Defoliator spraying (ha)										
Tree Farm Li	D	F. H. Maintenance	7	Studies (number)										
Tree Farm Li	D	F. H. Maintenance	8	Other										
Tree Farm Li	E	Current Fire/Pest	1	Planning/surveys/presc.										
Tree Farm Li	E	Current Fire/Pest	2	Site preparation										
Tree Farm Li	E	Current Fire/Pest	3	Planting										
Tree Farm Li	E	Current Fire/Pest	4	Brushing										
Tree Farm Li	E	Current Fire/Pest	5	Max. density spacing										
Tree Farm Li	E	Current Fire/Pest	6	Studies										
Tree Farm Li	E	Current Fire/Pest	7	Other										
Tree Farm Li	F	Habitat Supply	1	Planning/surveys/presc.										
Tree Farm Li	F	Habitat Supply	2	Site preparation										
Tree Farm Li	F	Habitat Supply	3	Planting										
Tree Farm Li	F	Habitat Supply	4	Brushing										
Tree Farm Li	F	Habitat Supply	5	Spacing										
Tree Farm Li	F	Habitat Supply	6	Pruning										
Tree Farm Li	F	Habitat Supply	7	Studies										
Tree Farm Li	F	Habitat Supply	8	Others										
				Totals	3650	1680	813	990	1090		$2,235,872	2868	6	0

MINISTRY OUTSTANDING

Activities Sorted by Priority (Ctl-e)

Table and Category				Activity	FIVE-YEAR PLAN GOALS					Annual Plan 2000/2001		
					2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority
A	Backlog	Legal	1	Planning/Surveys/prescr.	1787.4	1351	418.1	262.4	84	$25,024	$14.00	1
A	Backlog	Legal	2	Site Preparation								
A	Backlog	Legal	3	Planting								
A	Backlog	Legal	4	Brushing								
A	Backlog	Legal	5	Seed Purchase								
A	Backlog	Legal	6	Max. Density spacing								
A	Backlog	Legal	7	Pruning								
A	Backlog	Reforestation	1	Planning/Surveys/prescr.								
A	Backlog	Reforestation	2	Site Preparation								
A	Backlog	Reforestation	3	Site Restoration Road/Land								
A	Backlog	Reforestation	4	Planting								
A	Backlog	Reforestation	5	Brushing								
A	Backlog	Reforestation	6	Seed Purchase								
A	Backlog	Impeded	1	Planning/Surveys/prescr.								
A	Backlog	Impeded	2	Site Preparation								
A	Backlog	Impeded	3	Planting								
A	Backlog	Impeded	4	Brushing	110.2	81.6	11.3			$143,260	$1,300.00	1
A	Backlog	Impeded	5	Seed Purchase								
A	Backlog	Total	7	Studies								
B	Stand Tending		1	Planning/Surveys/prescr.	587	34				$29,350	$50.00	2
B	Stand Tending		2	Spacing	503	24.3				$1,106,600	$2,200.00	3
B	Stand Tending		3	Pruning	249.9	70.9	48.1	118.7		$562,275	$2,250.00	3
B	Stand Tending		4	Fertilizing								
B	Stand Tending		5	Studies								
B	Stand Tending		6	Other								
C	F.H. Enhancement		1	Site Rehabilitation								
C	F.H. Enhancement		2	Spacing								
C	F.H. Enhancement		3	Pruning								
C	F.H. Enhancement		4	Studies								
C	F.H. Enhancement		5	Other								
D	F.H. Maintenance		1	Ground Surveys (ha)								
D	F.H. Maintenance		2	Aerial Surveys (hours flying)								
D	F.H. Maintenance		3	Fall & Burn treatment (trees)								
D	F.H. Maintenance		4	MSMA treatment (trees)								
D	F.H. Maintenance		5	Pheromone baiting (trees)								
D	F.H. Maintenance		6	Defoliator spraying (ha)								
D	F.H. Maintenance		7	Studies (number)								
D	F.H. Maintenance		8	Other								
E	Current Fire/Pest		1	Planning/Surveys/prescr.								
E	Current Fire/Pest		2	Site Preparation								
E	Current Fire/Pest		3	Planting								
E	Current Fire/Pest		4	Brushing								
E	Current Fire/Pest		5	Max. Density spacing								
E	Current Fire/Pest		6	Studies								
E	Current Fire/Pest		7	Other								
F	Habitat Supply		1	Planning/Surveys/prescr.								
F	Habitat Supply		2	Site Preparation								
F	Habitat Supply		3	Planting								
F	Habitat Supply		4	Brushing								
F	Habitat Supply		5	Spacing								
F	Habitat Supply		6	Pruning								
F	Habitat Supply		7	Studies								
F	Habitat Supply		8	Other								

TFL 25 BLK 1
Table A: Backlog Activities
JULY 29/99

Legal Obligations

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescri	0	0	0	0	0	$0	$0	0
2	Site preparation	0	0	0	0	0	$0	0	0
3	Planting	0	0	0	0	0	$0	0	0
4	Brushing	0	0	0	0	0	$0	0	0
5	Seed purchase	0	0	0	0	0	$0	0	0
6	Max. density spacing	0	0	0	0	0	$0	0	0
7	Pruning	0	0	0	0	0	$0	0	0
	Totals	0	0	0	0	0	0	#DIV/0!	

Backlog Reforestation

1	Planning/surveys/prescri	0	0	0	0	0	$0	$0	0
2	Site preparation	0	0	0	0	0	$0	0	0
3	Site restoration road/lan	0	0	0	0	0	$0	0	0
4	Planting	0	0	0	0	0	$0	0	0
5	Brushing	0	0	0	0	0	$0	0	0
6	Seed purchase	0	0	0	0	0	$0	0	0
	Totals	0	0	0	0	0	$0	#DIV/0!	

Impeded areas

1	Planning/surveys/prescri	0	0	0	0	0	$0	$0	0
2	Site preparation	0	0	0	0	0	$0	0	0
3	Planting	0	0	0	0	0	$0	0	0
4	Brushing	0	0	0	0	0	$0	0	0
5	Seed purchase	0	0	0	0	0	$0	0	0
	Totals	0	0	0	0	0	$0	#DIV/0!	

Backlog Activities - Management Unit Total

1	Planning/surveys/prescri	0	0	0	0	0	$0	#DIV/0!	
2	Site preparation	0	0	0	0	0	0	#DIV/0!	
3	Site restoration road/lan	0	0	0	0	0	0	#DIV/0!	
4	Planting	0	0	0	0	0	0	#DIV/0!	
5	Brushing	0	0	0	0	0	0	#DIV/0!	
6	Seed purchase	0	0	0	0	0	0	#DIV/0!	
7	Max. density spacing	0	0	0	0	0	0	#DIV/0!	
8	Pruning	0	0	0	0	0	0	#DIV/0!	
9	Studies	0	0	0	0	0	0	0	0
	Totals	0	0	0	0	0	$0	$0	

TFL 25 BLK 1
Table B: Stand Tending Activities
JULY 29/99

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/pres	50	100	100	100	0	$6,250	$125	1
2	Spacing	0	0	0	0	0	$0	0	3
3	Pruning	50	50	100	100	100	$100,000	2,000	1
4	Fertilizing	0	800	0	0	200	$0	600	1
5	Studies	0	0	0	0	0	$0	0	0
6	Other	0	0	0	0	0	$0	0	0
	Totals	100	950	200	200	300	106250	$1,063	

TFL 25 BLOCK 2 HEYDON BAY
Table A: Backlog Activities
JULY 26/99

Legal Obligations

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/pres	61	0	0	0	0	$3,660	$60	1
2	Site preparation	0	0	0	0	0	$0	0	0
3	Planting	0	0	0	0	0	$0	0	0
4	Brushing	0	0	0	0	0	$0	0	0
5	Seed purchase	0	0	0	0	0	$0	0	0
6	Max. density spacing	0	0	0	0	0	$0	0	0
7	Pruning	0	0	0	0	0	$0	0	0
	Totals	61	0	0	0	0	3660	$60	

Backlog Reforestation

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/pres	0	0	0	0	0	$0	$0	0
2	Site preparation	0	0	0	0	0	$0	0	0
3	Site restoration road/la	0	0	0	0	0	$0	0	0
4	Planting	0	0	0	0	0	$0	0	0
5	Brushing	0	0	0	0	0	$0	0	0
6	Seed purchase	0	0	0	0	0	$0	0	0
	Totals	0	0	0	0	0	$0	#DIV/0!	

Impeded areas

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions						$0		
2	Site preparation						$0		
3	Planting						$0		
4	Brushing						$0		
5	Seed purchase						$0		
	Totals	0	0	0	0	0	$0	#DIV/0!	

Backlog Activities - Management Unit Total

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/pres	61	0	0	0	0	$3,660	$60	
2	Site preparation	0	0	0	0	0	0	#DIV/0!	
3	Site restoration road/la	0	0	0	0	0	0	#DIV/0!	
4	Planting	0	0	0	0	0	0	#DIV/0!	
5	Brushing	0	0	0	0	0	0	#DIV/0!	
6	Seed purchase	0	0	0	0	0	0	#DIV/0!	
7	Max. density spacing	0	0	0	0	0	0	#DIV/0!	
8	Pruning	0	0	0	0	0	0	#DIV/0!	
9	Studies	0	0	0	0	0	0	0	0
	Totals	61	0	0	0	0	$3,660	$60	

TFL 25 BLOCK 2 HEYDON BAY
Table B: Stand Tending Activities
JULY 26/99

	Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/pres	100	0	0	200	0	$12,500	$125	2
2	Spacing	0	0	0	0	160	$0	0	3
3	Pruning	0	0	0	0	40	$0	0	3
4	Fertilizing	660	0	0	0	0	$297,000	450	1
5	Studies	0	0	0	0	0	$0	0	0
6	Other	0	0	0	0	0	$0	0	0
	Totals	760	0	0	200	200	309500	$407	

Stand Tending Activities

Spacing - potential will be based on this year's FTG surveys for TFL 25 Block 2
Pruning - 2nd lift pruning on bocks adjacent to Heydon Bay Lake is planned for 2004/2005 TFL 25 Block 2

TFL 25 Block 3 Naka Creek
Table A: Backlog Activities
August 5, 1999

Legal Obligations

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/pres	168	40	25	25	25	$11,592	$69	4
2	Site preparation	140	35	35	35	35	$114,520	818	4
3	Planting	0	0	0	0	0	$0	0	0
4	Brushing	0	0	0	0	0	$0	0	0
5	Seed purchase	0	0	0	0	0	$0	0	0
6	Max. density spacing	0	0	0	0	0	$0	0	0
7	Pruning	0	0	0	0	0	$0	0	0
	Totals	308	75	60	60	60	126112	$409	

Backlog Reforestation

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/pres	98	15	0	0	0	$4,900	$50	1
2	Site preparation	0	0	0	0	0	$0	0	0
3	Site restoration road/la	0	0	0	0	0	$0	0	0
4	Planting	0	0	0	0	0	$0	0	0
5	Brushing	0	0	0	0	0	$0	0	0
6	Seed purchase	0	0	0	0	0	$0	0	0
	Totals	98	15	0	0	0	$4,900	$50	

Impeded areas

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/pres	62	15	15	15	15	$3,100	$50	1
2	Site preparation						$0		
3	Planting						$0		
4	Brushing	8	10	10	10	10	$3,600	450	1
5	Seed purchase						$0		
	Totals	70	25	25	25	25	$6,700	$96	

Backlog Activities - Management Unit Total

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/pres	328	70	40	40	40	$19,592	$60	
2	Site preparation	140	35	35	35	35	114,520	818	
3	Site restoration road/la	0	0	0	0	0	0	#DIV/0!	
4	Planting	0	0	0	0	0	0	#DIV/0!	
5	Brushing	8	10	10	10	10	3,600	450	
6	Seed purchase	0	0	0	0	0	0	#DIV/0!	
7	Max. density spacing	0	0	0	0	0	0	#DIV/0!	
8	Pruning	0	0	0	0	0	0	#DIV/0!	
9	Studies	0	0	0	0	0	0	0	0
	Totals	476	115	85	85	85	$137,712	$289	

TFL 25 Block 3 Naka Creek
Table B: Stand Tending Activities
August 5, 1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/pres	100	0	0	0	0	$12,500	$125	1
2	Spacing	20	20	20	20	20	$51,000	2,550	3
3	Pruning	20	15	15	15	15	$51,000	2,550	3
4	Fertilizing	0	0	0	0	0	$0	0	
5	Studies	0	0	0	0	0	$0	0	0
6	Other	0	0	0	0	0	$0	0	0
	Totals	140	35	35	35	35	114500	$818	

Tree Farm Licence 25, Block 5, Mid Coast Forest District
Table A: Backlog Activities
August 5, 1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Legal Obligations									
1	Planning/surveys/pres	0	0	0	0	0	$0	$0	0
2	Site preparation	0	0	0	0	0	$0	0	0
3	Planting	0	0	0	0	0	$0	0	0
4	Brushing	0	0	0	0	0	$0	0	0
5	Seed purchase	0	0	0	0	0	$0	0	0
6	Max. density spacing	0	0	0	0	0	$0	0	0
7	Pruning	0	0	0	0	0	$0	0	0
	Totals	0	0	0	0	0	0	#DIV/0!	
Backlog Reforestation									
1	Planning/surveys/pres	20	0	0	0	0	$1,000	$50	1
2	Site preparation	0	0	0	0	0	$0	0	0
3	Site restoration road/la	0	0	0	0	0	$0	0	0
4	Planting	0	0	0	0	0	$0	0	0
5	Brushing	20	0	0	0	0	$40,000	2,000	1
6	Seed purchase	0	0	0	0	0	$0	0	0
	Totals	40	0	0	0	0	$41,000	$1,025	
Impeded areas									
1	Planning/surveys/pres	0	0	0	0	0	$0	$0	0
2	Site preparation	0	0	0	0	0	$0	0	0
3	Planting	0	0	0	0	0	$0	0	0
4	Brushing	0	0	0	0	0	$0	0	0
5	Seed purchase	0	0	0	0	0	$0	0	0
	Totals	0	0	0	0	0	$0	#DIV/0!	
Backlog Activities - Management Unit Total									
1	Planning/surveys/pres	20	0	0	0	0	$1,000	$50	
2	Site preparation	0	0	0	0	0	0	#DIV/0!	
3	Site restoration road/la	0	0	0	0	0	0	#DIV/0!	
4	Planting	0	0	0	0	0	0	#DIV/0!	
5	Brushing	20	0	0	0	0	40,000	2,000	
6	Seed purchase	0	0	0	0	0	0	#DIV/0!	
7	Max. density spacing	0	0	0	0	0	0	#DIV/0!	
8	Pruning	0	0	0	0	0	0	#DIV/0!	
9	Studies	0	0	0	0	0	0	0	0
	Totals	40	0	0	0	0	$41,000	$1,025	

Backlog Reforestation Brushing: Unit cost reflects lower productivity of First nations crews and remote boat access

Tree Farm Licence 25, Block 5, Mid Coast Forest District
Table B: Stand Tending Activities
August 5, 1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/pres	0	0	0	0	0	$0	$0	0
2	Spacing	0	0	0	0	0	$0	0	0
3	Pruning	23	0	0	0	0	$92,000	4,000	2
4	Fertilizing	0	0	23	0	0	$0		0
5	Studies	0	0	0	0	0	$0	0	0
6	Other	0	0	0	0	0	$0	0	0
	Totals	23	0	23	0	0	92000	$4,000	

Stand Tending, Pruning: Unit cost reflects lower productivity of First nations crews and remote boat access

TFL 25 BLOCK 6 SEWELL INLET
Table A: Backlog Activities
JULY 26/99

Legal Obligations

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/pres	0	0	0	0	0	$0	$0	0
2	Site preparation	0	0	0	0	0	$0	0	0
3	Planting	0	0	0	0	0	$0	0	0
4	Brushing	0	0	0	0	0	$0	0	0
5	Seed purchase	0	0	0	0	0	$0	0	0
6	Max. density spacing	0	0	0	0	0	$0	0	0
7	Pruning	0	0	0	0	0	$0	0	0
	Totals	0	0	0	0	0	0	#DIV/0!	

Backlog Reforestation

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/pres	0	0	0	0	0	$0	$0	0
2	Site preparation	0	0	0	0	0	$0	0	0
3	Site restoration road/la	0	0	0	0	0	$0	0	0
4	Planting	0	0	0	0	0	$0	0	0
5	Brushing	0	0	0	0	0	$0	0	0
6	Seed purchase	0	0	0	0	0	$0	0	0
	Totals	0	0	0	0	0	$0	#DIV/0!	

Impeded areas

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/pres	500	100	50	50	50	$15,000	$30	2
2	Site preparation	0	0	0	0	0	$0	0	0
3	Planting	0	0	0	0	0	$0	0	0
4	Brushing	50	30	20	20	20	$75,000	1,500	2
5	Seed purchase	0	0	0	0	0	$0	0	0
	Totals	550	130	70	70	70	$90,000	$164	

Backlog Activities - Management Unit Total

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/pres	500	100	50	50	50	$15,000	$30	
2	Site preparation	0	0	0	0	0	0	#DIV/0!	
3	Site restoration road/la	0	0	0	0	0	0	#DIV/0!	
4	Planting	0	0	0	0	0	0	#DIV/0!	
5	Brushing	50	30	20	20	20	75,000	1,500	
6	Seed purchase	0	0	0	0	0	0	#DIV/0!	
7	Max. density spacing	0	0	0	0	0	0	#DIV/0!	
8	Pruning	0	0	0	0	0	0	#DIV/0!	
9	Studies	0	0	0	0	0	0	0	0
	Totals	550	130	70	70	70	$90,000	$164	

TFL 25 BLOCK 6 SEWELL INLET
Table B: Stand Tending Activities
JULY 26/99

	Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/pres	250	200	200	200	200	$27,500	$110	2
2	Spacing	250	200	150	150	150	$450,000	1,800	2
3	Pruning	50	50	50	50	50	$175,000	3,500	3
4	Fertilizing	950	0	0	0	0	$688,750	725	2
5	Studies	0	0	0	0	0	$0	0	0
6	Other	0	0	0	0	0	$0	0	0
	Totals	1500	450	400	400	400	1341250	$894	

TFL 25
Summary Table
August 5, 1999

	Activities Sorted by Priority					Five-Year Plan Goals (ha)						Annual Plan 2000/01			
Management	Table and category				Activity	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005		Funding ($000)	Unit Cost ($)	Man. l Priorit	Regional Priority
Tree Farm Li	A	Backlog	Legal	1	Planning/surveys/presc.	229	40	25	25	25		$15,252	60,69	1,4	
Tree Farm Li	A	Backlog	Legal	2	Site preparation	140	35	35	35	35		$114,520	818	4	
Tree Farm Li	A	Backlog	Legal	3	Planting										
Tree Farm Li	A	Backlog	Legal	4	Brushing										
Tree Farm Li	A	Backlog	Legal	5	Seed Purchase										
Tree Farm Li	A	Backlog	Legal	6	Max. density spacing										
Tree Farm Li	A	Backlog	Legal	7	Pruning										
Tree Farm Li	A	Backlog	Backlog	1	Planning/surveys/presc.	118	15					$5,900	50	1	
Tree Farm Li	A	Backlog	Backlog	2	Site preparation										
Tree Farm Li	A	Backlog	Backlog	3	Site Restoration Road/land. rehab										
Tree Farm Li	A	Backlog	Backlog	4	Planting										
Tree Farm Li	A	Backlog	Backlog	5	Brushing	20						$40,000	2000	1	
Tree Farm Li	A	Backlog	Backlog	6	Seed Purchase										
Tree Farm Li	A	Backlog	Impeded	1	Planning/surveys/presc.	562	115	65	65	65		$18,100	30/50	1,2	
Tree Farm Li	A	Backlog	Impeded	2	Site preparation										
Tree Farm Li	A	Backlog	Impeded	3	Planting										
Tree Farm Li	A	Backlog	Impeded	4	Brushing	58	40	30	30	30		$78,600	450/1500	1,2	
Tree Farm Li	A	Backlog	Impeded	5	Seed Purchase										
Tree Farm Li	A	Backlog	Total	7	Studies										
Tree Farm Li	B	Stand Tending		1	Planning/surveys/presc.	500	300	300	500	200		$58,750	125/110	1,2	
Tree Farm Li	B	Stand Tending		2	Spacing	270	220	170	170	330		$501,000	2550/1800	2,3	
Tree Farm Li	B	Stand Tending		3	Pruning	143	115	165	165	205		$418,000	2000/2550/4 000/3500	1,2	
Tree Farm Li	B	Stand Tending		4	Fertilizing	1610	800	23		200		$985,750	450/600/725	1,2	
Tree Farm Li	B	Stand Tending		5	Studies										
Tree Farm Li	B	Stand Tending		6	Other										
Tree Farm Li	C	F. H. Enhancement		1	Site rehab										
Tree Farm Li	C	F. H. Enhancement		2	Spacing										
Tree Farm Li	C	F. H. Enhancement		3	Pruning										

Tree Farm Li	C	F. H. Enhancement	4	Studies									
Tree Farm Li	C	F. H. Enhancement	5	Others									
Tree Farm Li	D	F. H. Maintenance	1	Ground Surveys (ha)									
Tree Farm Li	D	F. H. Maintenance	2	Aerial Surveys (hours flying)									
Tree Farm Li	D	F. H. Maintenance	3	Fall & burn treatment (trees)									
Tree Farm Li	D	F. H. Maintenance	4	MSMA treatment (trees)									
Tree Farm Li	D	F. H. Maintenance	5	Pheromone baiting (trees)									
Tree Farm Li	D	F. H. Maintenance	6	Defoliator spraying (ha)									
Tree Farm Li	D	F. H. Maintenance	7	Studies (number)									
Tree Farm Li	D	F. H. Maintenance	8	Other									
Tree Farm Li	E	Current Fire/Pest	1	Planning/surveys/presc.									
Tree Farm Li	E	Current Fire/Pest	2	Site preparation									
Tree Farm Li	E	Current Fire/Pest	3	Planting									
Tree Farm Li	E	Current Fire/Pest	4	Brushing									
Tree Farm Li	E	Current Fire/Pest	5	Max. density spacing									
Tree Farm Li	E	Current Fire/Pest	6	Studies									
Tree Farm Li	E	Current Fire/Pest	7	Other									
Tree Farm Li	F	Habitat Supply	1	Planning/surveys/presc.									
Tree Farm Li	F	Habitat Supply	2	Site preparation									
Tree Farm Li	F	Habitat Supply	3	Planting									
Tree Farm Li	F	Habitat Supply	4	Brushing									
Tree Farm Li	F	Habitat Supply	5	Spacing									
Tree Farm Li	F	Habitat Supply	6	Pruning									
Tree Farm Li	F	Habitat Supply	7	Studies									
Tree Farm Li	F	Habitat Supply	8	Others									
				Totals	3650	1680	813	990	1090		$2,235,872	2868	6	0

Mission TFL 26
Table A: Backlog Activities
July 28, 1999

Legal Obligations

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	0	0	0	0	0	0
2	Site preparation	0	0	0	0	0	0	0	0
3	Planting	0	0	0	0	0	0	0	0
4	Brushing	0	0	0	0	0	0	0	0
5	Seed purchase	0	0	0	0	0	0	0	0
6	Max. density spacing	0	0	0	0	0	0	0	0
7	Pruning	0	0	0	0	0	0	0	0
	Totals	0	0	0	0	0	0	#DIV/0!	

Backlog Reforestation

1	Planning/surveys/prescriptions	0	0	0	0	0	0	0	0
2	Site preparation	0	0	0	0	0	0	0	0
3	Site restoration road/land. rehab	0	0	0	0	0	0	0	0
4	Planting	0	0	0	0	0	0	0	0
5	Brushing	0	0	0	0	0	0	0	0
6	Seed purchase	0	0	0	0	0	0	0	0
	Totals	0	0	0	0	0	0	#DIV/0!	

Impeded areas

1	Planning/surveys/prescriptions	0	0	0	0	0	0	0	0
2	Site preparation	0	0	0	0	0	0	0	0
3	Planting	0	0	0	0	0	0	0	0
4	Brushing	0	0	0	0	0	0	0	0
5	Seed purchase	0	0	0	0	0	0	0	0
	Totals	0	0	0	0	0	0	#DIV/0!	

Backlog Activities - Management Unit Total

1	Planning/surveys/prescriptions	0	0	0	0	0	0	#DIV/0!	
2	Site preparation	0	0	0	0	0	0	#DIV/0!	
3	Site restoration road/land. rehab	0	0	0	0	0	0	#DIV/0!	
4	Planting	0	0	0	0	0	0	#DIV/0!	
5	Brushing	0	0	0	0	0	0	#DIV/0!	
6	Seed purchase	0	0	0	0	0	0	#DIV/0!	
7	Max. density spacing	0	0	0	0	0	0	#DIV/0!	
8	Pruning	0	0	0	0	0	0	#DIV/0!	
9	Studies	0.001	0	0	0	0	0	0	0
	Totals	0.001	0	0	0	0	0	0	

Mission TFL 26
Table B: Stand Tending Activities
July 28, 1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	80	80	80	80	80	4,800	60	2
2	Spacing	60	50	50	50	50	78,000	1300	2
3	Pruning	24	30	30	30	30	33,600	1400	3
4	Fertilizing	200	0	200	0	200	60,000	300	2
5	Studies	0	0	0	0	0	0	0	0
6	Other	0	0	0	0	0	0	0	0
	Totals	364	160	360	160	360	176400	485	

Mission TFL 26
Table C: Forest Health Enhancement Activities
July 28, 1999

	Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Site rehab	0	0	0	0	0	0	0	0
2	Spacing	0	0	0	0	0	0	0	0
3	Pruning	0	0	0	0	0	0	0	0
4	Studies	0	0	0	0	0	0	0	0
5	Others	0	0	0	0	0	0	0	0
	Totals	0	0	0	0	0	0	#DIV/0!	

Mission TFL 26
Table D: Forest Health Maintenance Activities
July 28, 1999

			Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	Units	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Ground Surveys	ha	0	0	0	0	0	0	0	0
2	Aerial Surveys	hours of flying time	0	0	0	0	0	0	0	0
3	Fall and burn treatment	trees	0	0	0	0	0	0	0	0
4	MSMA treatment	trees	0	0	0	0	0	0	0	0
5	Pheromone baiting	trees	0	0	0	0	0	0	0	0
6	Defoliator spraying	ha	0	0	0	0	0	0	0	0
7	Studies	number	0	0	0	0	0	0	0	0
8	Other		0	0	0	0	0	0	0	0
	Totals		0	0	0	0	0	0	#DIV/0!	

Mission TFL 26
Table E: Current Fire and Pest Activities
July 28, 1999

	Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	0	0	0	0	0	0
2	Site preparation	0	0	0	0	0	0	0	0
3	Planting	0	0	0	0	0	0	0	0
4	Brushing	0	0	0	0	0	0	0	0
5	Max. density spacing	0	0	0	0	0	0	0	0
6	Studies	0	0	0	0	0	0	0	0
7	Other	0	0	0	0	0	0	0	0
	Totals	0	0	0	0	0	0	#DIV/0!	

Mission TFL 26
Table F: Habitat Supply Activities
July 28, 1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	0	0	0
2 Site preparation	0	0	0	0	0	0	0	0
3 Planting	0	0	0	0	0	0	0	0
4 Brushing	0	0	0	0	0	0	0	0
5 Spacing	0	0	0	0	0	0	0	0
6 Pruning	0	0	0	0	0	0	0	0
7 Studies	0	0	0	0	0	0	0	0
8 Others	0	0	0	0	0	0	0	0
Totals	0	0	0	0	0	0	#DIV/0!	

Mission TFL 26
Summary Table
July 28, 1999

Management Unit

Table Totals	Five-Year Plan Goals (ha) 2000/2001	2001/2002	2002/2003	2003/2004	2004/2005	Annual Plan 2000/01 Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	0	0	0	0	0	0	0	
Table B: Stand Tending Activities	364	160	360	160	360	176,400	485	
Table C: Forest Health Enhancement Activities	0	0	0	0	0	0	#DIV/0!	
Table D: Forest Health Maintenance Activities	0	0	0	0	0	0	#DIV/0!	
Table E: Current Fire and Pest Activities	0	0	0	0	0	0	#DIV/0!	
Table F: Habitat Supply Activities	0	0	0	0	0	0	#DIV/0!	
Totals of all tables	364	160	360	160	360	176,400	485	

Activities Sorted by Priority (Ctl-e)

Table and category			Activity		Five-Year Plan Goals (ha) 2000/2001	2001/2002	2002/2003	2003/2004	2004/2005	Annual Plan 2000/01 Funding ($000)	Unit Cost ($)	Man. Unit Priority
A	Backlog	Legal	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
A	Backlog	Legal	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog	Legal	3	Planting	0	0	0	0	0	0	0	0
A	Backlog	Legal	4	Brushing	0	0	0	0	0	0	0	0
A	Backlog	Legal	5	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog	Legal	6	Max. density spacing	0	0	0	0	0	0	0	0
A	Backlog	Legal	7	Pruning	0	0	0	0	0	0	0	0
A	Backlog	Backlog	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
A	Backlog	Backlog	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog	Backlog	3	Site Restoration Road/land. r	0	0	0	0	0	0	0	0
A	Backlog	Backlog	4	Planting	0	0	0	0	0	0	0	0
A	Backlog	Backlog	5	Brushing	0	0	0	0	0	0	0	0
A	Backlog	Backlog	6	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog	Impeded	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
A	Backlog	Impeded	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog	Impeded	3	Planting	0	0	0	0	0	0	0	0
A	Backlog	Impeded	4	Brushing	0	0	0	0	0	0	0	0
A	Backlog	Impeded	5	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog	Total	7	Studies	0	0	0	0	0	0	0	0
B	Stand Tending		1	Planning/surveys/presc.	80	80	80	80	80	4,800	60	2
B	Stand Tending		2	Spacing	60	50	50	50	50	78,000	1,300	2
B	Stand Tending		3	Pruning	24	30	30	30	30	33,600	1,400	3
B	Stand Tending		4	Fertilizing	200	0	200	0	200	60,000	300	2
B	Stand Tending		5	Studies	0	0	0	0	0	0	0	0
B	Stand Tending		6	Other	0	0	0	0	0	0	0	0
C	F. H. Enhancement		1	Site rehab	0	0	0	0	0	0	0	0
C	F. H. Enhancement		2	Spacing	0	0	0	0	0	0	0	0
C	F. H. Enhancement		3	Pruning	0	0	0	0	0	0	0	0
C	F. H. Enhancement		4	Studies	0	0	0	0	0	0	0	0
C	F. H. Enhancement		5	Others	0	0	0	0	0	0	0	0
D	F. H. Maintenance		1	Ground Surveys (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance		2	Aerial Surveys (hours flying)	0	0	0	0	0	0	0	0
D	F. H. Maintenance		3	Fall & burn treatment (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance		4	MSMA treatment (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance		5	Pheromone baiting (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance		6	Defoliator spraying (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance		7	Studies (number)	0	0	0	0	0	0	0	0
D	F. H. Maintenance		8	Other	0	0	0	0	0	0	0	0
E	Current Fire/Pest		1	Planning/surveys/presc.	0	0	0	0	0	0	0	0

E	Current Fire/Pest	2	Site preparation	0	0	0	Management Unit 0	0	0	0	0
E	Current Fire/Pest	3	Planting	0	0	0	0	0	0	0	0
E	Current Fire/Pest	4	Brushing	0	0	0	0	0	0	0	0
E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	0
E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	0
E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	0
F	Habitat Supply	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	0
F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	0
F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	0
F	Habitat Supply	5	Spacing	0	0	0	0	0	0	0	0
F	Habitat Supply	6	Pruning	0	0	0	0	0	0	0	0
F	Habitat Supply	7	Studies	0	0	0	0	0	0	0	0
F	Habitat Supply	8	Others	0	0	0	0	0	0	0	0
										Check totals:	
Totals				364	160	360	160	360	176,400	3,060	9

TFL 37 - Canadian Forest Products Ltd.
Table A: Backlog Activities
August 6, 1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
Legal Obligations	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0		9
2 Site preparation	0	0	0	0	0	$0	0	9
3 Planting	0	0	0	0	0	$0	0	9
4 Brushing	0	0	0	0	0	$0	0	9
5 Seed purchase	0	0	0	0	0	$0	0	9
6 Max. density spacing	0	0	0	0	0	$0	0	9
7 Pruning	0	0	0	0	0	$0	0	9
Totals	0	0	0	0	0	0	#DIV/0!	

Backlog Reforestation

1 Planning/surveys/prescriptions						$0		9
2 Site preparation						$0	0	9
3 Site restoration road/land. rehab						$0	0	9
4 Planting						$0		9
5 Brushing						$0		9
6 Seed purchase	0	0	0	0	0	$0	0	9
Totals	0	0	0	0	0	$0	#DIV/0!	

Impeded areas

1 Planning/surveys/prescriptions	500	200	200	200	200	$11,000	$22	3
2 Site preparation	0	0	0	0	0	$0	0	9
3 Planting	10	0	0	0	0	$11,000	1,100	1
4 Brushing	10	0	0	0	0	$11,000	1,100	2
5 Seed purchase	0	0	0	0	0	$0	0	9
Totals	520	200	200	200	200	$33,000	$63	

Backlog Activities - Management Unit Total

1 Planning/surveys/prescriptions	500	200	200	200	200	$11,000	$22	
2 Site preparation	0	0	0	0	0	0	#DIV/0!	
3 Site restoration road/land. rehab	0	0	0	0	0	0	#DIV/0!	
4 Planting	10	0	0	0	0	11,000	1,100	
5 Brushing	10	0	0	0	0	11,000	1,100	
6 Seed purchase	0	0	0	0	0	0	#DIV/0!	
7 Max. density spacing	0	0	0	0	0	0	#DIV/0!	
8 Pruning	0	0	0	0	0	0	#DIV/0!	
9 Studies	0	0	0	0	0	0	0	9
Totals	520	200	200	200	200	$33,000	$63	

TFL 37 - Canadian Forest Products Ltd.
Table B: Stand Tending Activities
August 6, 1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01			
Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority	
1 Planning/surveys/prescriptions	10	0	0	0	0	$1,250	$125	2	**Community Forestry**
2 Spacing	10	0	0	0	0	$38,000	3,800	2	**Community Forestry**
3 Pruning	0	0	0	0	0	$0	0	9	
4 Fertilizing	1075	0	0	0	0	$376,250	350	1	
5 Studies	0	0	0	0	0	$0	0	9	
6 Other	0	0	0	0	0	$0	0	9	
Totals	1095	0	0	0	0	415500	$379		

TFL 37 - Canadian Forest Products Ltd.
Table C: Forest Health Enhancement Activities
August 6, 1999

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Site rehab	0	0	0	0	0	$0	$0	9
2 Spacing	0	0	0	0	0	$0	0	9
3 Pruning	0	0	0	0	0	$0	0	9
4 Studies	0	0	0	0	0	$0	0	9
5 Others	0	0	0	0	0	$0	0	9
Totals	0	0	0	0	0	$0	#DIV/0!	

TFL 37 - Canadian Forest Products Ltd.
Table D: Forest Health Maintenance Activities
August 6, 1999

			Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	**Units**	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Ground Surveys	ha	0	0	0	0	0	$0	$0	9
2	Aerial Surveys	hours of flying time	0	0	0	0	0	$0	0	9
3	Fall and burn treatment	trees	0	0	0	0	0	$0	0	9
4	MSMA treatment	trees	0	0	0	0	0	$0	0	9
5	Pheromone baiting	trees	0	0	0	0	0	$0	0	9
6	Defoliator spraying	ha	0	0	0	0	0	$0	0	9
7	Studies	number	0	0	0	0	0	$0	0	9
8	Other		0	0	0	0	0	$0	0	9
	Totals		0	0	0	0	0	$0	#DIV/0!	

TFL 37 - Canadian Forest Products Ltd.
Table E: Current Fire and Pest Activities
August 6, 1999

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	9
2 Site preparation	0	0	0	0	0	$0	0	9
3 Planting	0	0	0	0	0	$0	0	9
4 Brushing	0	0	0	0	0	$0	0	9
5 Max. density spacing	0	0	0	0	0	$0	0	9
6 Studies	0	0	0	0	0	$0	0	9
7 Other	0	0	0	0	0	$0	0	9
Totals	$0	$0	$0	$0	$0	$0	#DIV/0!	

TFL 37 - Canadian Forest Products Ltd.
Table F: Habitat Supply Activities
August 6, 1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01			
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority	
1 Planning/surveys/prescriptions	200	120	120	120	120	$25,000	$125	1	
2 Site preparation	0	0	0	0	0	$0	0	9	
3 Planting	0	0	0	0	0	$0	0	9	
4 Brushing	0	0	0	0	0	$0	0	9	
5 Spacing	100	60	60	60	60	$200,000	2,000	2	First Nations Partners and Local Contractors
6 Pruning	100	60	60	60	60	$200,000	2,000	2	First Nations Partners and Local Contractors
7 Studies	0	0	0	0	0	$0	0	9	
8 Others	0	0	0	0	0	$0	0	9	
Totals	400	240	240	240	240	$425,000	$1,063		

TFL 37 - Canadian Forest Products Ltd.
Summary Table
August 6, 1999

	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
Table Totals	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	520	200	200	200	200	33,000	63	
Table B: Stand Tending Activities	1,095	0	0	0	0	415,500	379	
Table C: Forest Health Enhancement Activities	0	0	0	0	0	0	#DIV/0!	
Table D: Forest Health Maintenance Activities	0	0	0	0	0	0	#DIV/0!	
Table E: Current Fire and Pest Activities	0	0	0	0	0	0	#DIV/0!	
Table F: Habitat Supply Activities	400	240	240	240	240	425,000	1,063	
Totals of all tables	2,015	440	440	440	440	873,500	433	

Activities Sorted by Priority (Ctl-e)

Table and category		Activity		Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority
A	Backlog Impeded	3	Planting	10	0	0	0	0	11,000	1,100	1
B	Stand Tending	4	Fertilizing	1,075	0	0	0	0	376,250	350	1
F	Habitat Supply	1	Planning/surveys/presc.	200	120	120	120	120	25,000	125	1
A	Backlog Impeded	4	Brushing	10	0	0	0	0	11,000	1,100	2
B	Stand Tending	1	Planning/surveys/presc.	10	0	0	0	0	1,250	125	2
B	Stand Tending	2	Spacing	10	0	0	0	0	38,000	3,800	2
F	Habitat Supply	5	Spacing	100	60	60	60	60	200,000	2,000	2
F	Habitat Supply	6	Pruning	100	60	60	60	60	200,000	2,000	2
A	Backlog Impeded	1	Planning/surveys/presc.	500	200	200	200	200	11,000	22	3
A	Backlog Total	7	Studies	0	0	0	0	0	0	0	9
C	F. H. Enhancement	1	Site rehab	0	0	0	0	0	0	0	9
C	F. H. Enhancement	2	Spacing	0	0	0	0	0	0	0	9
C	F. H. Enhancement	3	Pruning	0	0	0	0	0	0	0	9
C	F. H. Enhancement	4	Studies	0	0	0	0	0	0	0	9

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
C	F. H. Enhancement	5	Others	0	0	0	0	0	0	0	9
D	F. H. Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	0	9
D	F. H. Maintenance	2	Aerial Surveys (hours flying	0	0	0	0	0	0	0	9
D	F. H. Maintenance	3	Fall & burn treatment (trees	0	0	0	0	0	0	0	9
D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	9
D	F. H. Maintenance	5	Pheromone baiting (trees)	0	0	0	0	0	0	0	9
D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	9
D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	0	9
D	F. H. Maintenance	8	Other	0	0	0	0	0	0	0	9
E	Current Fire/Pest	1	Planning/surveys/presc.	0	0	0	0	0	0	0	9
E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	0	9
E	Current Fire/Pest	3	Planting	0	0	0	0	0	0	0	9
E	Current Fire/Pest	4	Brushing	0	0	0	0	0	0	0	9
E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	9
E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	9
E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	9
A	Backlog Legal	1	Planning/surveys/presc.	0	0	0	0	0	0	0	9
A	Backlog Legal	2	Site preparation	0	0	0	0	0	0	0	9
A	Backlog Legal	3	Planting	0	0	0	0	0	0	0	9
A	Backlog Legal	4	Brushing	0	0	0	0	0	0	0	9
A	Backlog Legal	5	Seed Purchase	0	0	0	0	0	0	0	9
A	Backlog Legal	6	Max. density spacing	0	0	0	0	0	0	0	9
A	Backlog Legal	7	Pruning	0	0	0	0	0	0	0	9
A	Backlog Backlog	1	Planning/surveys/presc.	0	0	0	0	0	0	0	9
A	Backlog Backlog	2	Site preparation	0	0	0	0	0	0	0	9
A	Backlog Backlog	3	Site Restoration Road/land.	0	0	0	0	0	0	0	9
A	Backlog Backlog	4	Planting	0	0	0	0	0	0	0	9
A	Backlog Backlog	5	Brushing	0	0	0	0	0	0	0	9
A	Backlog Backlog	6	Seed Purchase	0	0	0	0	0	0	0	9
A	Backlog Impeded	2	Site preparation	0	0	0	0	0	0	0	9
A	Backlog Impeded	5	Seed Purchase	0	0	0	0	0	0	0	9
B	Stand Tending	3	Pruning	0	0	0	0	0	0	0	9
B	Stand Tending	5	Studies	0	0	0	0	0	0	0	9
B	Stand Tending	6	Other	0	0	0	0	0	0	0	9
F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	9

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	9
F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	9
F	Habitat Supply	7	Studies	0	0	0	0	0	0	0	9
F	Habitat Supply	8	Others	0	0	0	0	0	0	0	9
										Check totals:	
Totals				2,015	440	440	440	440	873,500	10,622	412

IFP,TFL 38- Squamish District
Table A: Backlog Activities
August18,1999

Legal Obligations

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2	Site preparation	0	0	0	0	0	$0	0	0
3	Planting	0	0	0	0	0	$0	0	0
4	Brushing	0	0	0	0	0	$0	0	0
5	Seed purchase	0	0	0	0	0	$0	0	0
6	Max. density spacing	0	0	0	0	0	$0	0	0
7	Pruning	0	0	0	0	0	$0	0	0
	Totals	0	0	0	0	0	0	#DIV/0!	

Backlog Reforestation

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	875	550	500	500	500	$48,125	$55	1
2	Site preparation	0	0	0	0	0	$0	0	0
3	Site restoration road/land. rehab	0	0	0	0	0	$0	0	0
4	Planting	20	10	10	10	10	$40,000	2,000	2
5	Brushing	200	150	100	100	100	$330,000	1,650	2
6	Seed purchase	0	0	0	0	0	$0	0	0
	Totals	1095	710	610	610	610	$418,125	$382	

Impeded areas

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2	Site preparation	0	0	0	0	0	$0	0	0
3	Planting	0	0	0	0	0	$0	0	0
4	Brushing	0	0	0	0	0	$0	0	0
5	Seed purchase	0	0	0	0	0	$0	0	0
	Totals	0	0	0	0	0	$0	#DIV/0!	

Backlog Activities - Management Unit Total

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	875	550	500	500	500	$48,125	$55	
2	Site preparation	0	0	0	0	0	0	#DIV/0!	
3	Site restoration road/land. rehab	0	0	0	0	0	0	#DIV/0!	
4	Planting	20	10	10	10	10	40,000	2,000	
5	Brushing	200	150	100	100	100	330,000	1,650	
6	Seed purchase	0	0	0	0	0	0	#DIV/0!	
7	Max. density spacing	0	0	0	0	0	0	#DIV/0!	
8	Pruning	0	0	0	0	0	0	#DIV/0!	
9	Studies	0	0	0	0	0	0	0	0
	Totals	1095	710	610	610	610	$418,125	$382	

IFP,TFL 38- Squamish District
Table B: Stand Tending Activities
August18,1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	650	500	400	400	400	$48,750	$75	1
2 Spacing	150	150	125	125	100	$270,000	1,800	2
3 Pruning	80	80	65	65	50	$240,000	3,000	3
4 Fertilizing	50	50	40	0	0	$25,000	500	2
5 Studies	0	0	0	0	0	$0	0	0
6 Other	0	0	0	0	0	$0	0	0
Totals	930	780	630	590	550	583750	$628	

IFP,TFL 38- Squamish District
Table C: Forest Health Enhancement Activities
August18,1999

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Site rehab	0	0	0	0	0	$0	$0	0
2 Spacing	0	0	0	0	0	$0	0	0
3 Pruning	0	0	0	0	0	$0	0	0
4 Studies	0	0	0	0	0	$0	0	0
5 Others	0	0	0	0	0	$0	0	0
Totals	0	0	0	0	0	$0	#DIV/0!	

IFP,TFL 38- Squamish District
Table D: Forest Health Maintenance Activities
August18,1999

	Activities	Units	Five-year Plan Goals (ha)					Annual Plan 2000/01		
			2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Ground Surveys	ha	0	0	0	0	0	$0	$0	0
2	Aerial Surveys	hours of flying time	0	0	0	0	0	$0	0	0
3	Fall and burn treatment	trees	0	0	0	0	0	$0	0	0
4	MSMA treatment	trees	0	0	0	0	0	$0	0	0
5	Pheromone baiting	trees	0	0	0	0	0	$0	0	0
6	Defoliator spraying	ha	0	0	0	0	0	$0	0	0
7	Studies	number	0	0	0	0	0	$0	0	0
8	Other		0	0	0	0	0	$0	0	0
	Totals		0	0	0	0	0	$0	#DIV/0!	

IFP,TFL 38- Squamish District
Table E: Current Fire and Pest Activities
August18,1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2 Site preparation	0	0	0	0	0	$0	0	0
3 Planting	0	0	0	0	0	$0	0	0
4 Brushing	0	0	0	0	0	$0	0	0
5 Max. density spacing	0	0	0	0	0	$0	0	0
6 Studies	0	0	0	0	0	$0	0	0
7 Other	0	0	0	0	0	$0	0	0
Totals	$0	$0	$0	$0	$0	$0	#DIV/0!	

IFP,TFL 38- Squamish District
Table F: Habitat Supply Activities
August18,1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2 Site preparation	0	0	0	0	0	$0	0	0
3 Planting	0	0	0	0	0	$0	0	0
4 Brushing	0	0	0	0	0	$0	0	0
5 Spacing	0	0	0	0	0	$0	0	0
6 Pruning	0	0	0	0	0	$0	0	0
7 Studies	0	0	0	0	0	$0	0	0
8 Others	0	0	0	0	0	$0	0	0
Totals	0	0	0	0	0	$0	#DIV/0!	

IFP,TFL 38- Squamish District
Summary Table
August18,1999

	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
Table Totals	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	1,095	710	610	610	610	418,125	382	
Table B: Stand Tending Activities	930	780	630	590	550	583,750	628	
Table C: Forest Health Enhancement Activities	0	0	0	0	0	0	#DIV/0!	
Table D: Forest Health Maintenance Activities	0	0	0	0	0	0	#DIV/0!	
Table E: Current Fire and Pest Activities	0	0	0	0	0	0	#DIV/0!	
Table F: Habitat Supply Activities	0	0	0	0	0	0	#DIV/0!	
Totals of all tables	2,025	1,490	1,240	1,200	1,160	1,001,875	495	

Activities Sorted by Priority (Ctl-e)

Table and category			Activity		Five-Year Plan Goals (ha)					Annual Plan 2000/01		
					2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority
A	Backlog	Legal	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
A	Backlog	Legal	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog	Legal	3	Planting	0	0	0	0	0	0	0	0
A	Backlog	Legal	4	Brushing	0	0	0	0	0	0	0	0
A	Backlog	Legal	5	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog	Legal	6	Max. density spacing	0	0	0	0	0	0	0	0
A	Backlog	Legal	7	Pruning	0	0	0	0	0	0	0	0
A	Backlog	Backlog	1	Planning/surveys/presc.	875	550	500	500	500	48,125	55	1
A	Backlog	Backlog	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog	Backlog	3	Site Restoration Road/land.	0	0	0	0	0	0	0	0
A	Backlog	Backlog	4	Planting	20	10	10	10	10	40,000	2,000	2
A	Backlog	Backlog	5	Brushing	200	150	100	100	100	330,000	1,650	2
A	Backlog	Backlog	6	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog	Impeded	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
A	Backlog Impeded	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog Impeded	3	Planting	0	0	0	0	0	0	0	0
A	Backlog Impeded	4	Brushing	0	0	0	0	0	0	0	0
A	Backlog Impeded	5	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog Total	7	Studies	0	0	0	0	0	0	0	0
B	Stand Tending	1	Planning/surveys/presc.	650	500	400	400	400	48,750	75	1
B	Stand Tending	2	Spacing	150	150	125	125	100	270,000	1,800	2
B	Stand Tending	3	Pruning	80	80	65	65	50	240,000	3,000	3
B	Stand Tending	4	Fertilizing	50	50	40	0	0	25,000	500	2
B	Stand Tending	5	Studies	0	0	0	0	0	0	0	0
B	Stand Tending	6	Other	0	0	0	0	0	0	0	0
C	F. H. Enhancement	1	Site rehab	0	0	0	0	0	0	0	0
C	F. H. Enhancement	2	Spacing	0	0	0	0	0	0	0	0
C	F. H. Enhancement	3	Pruning	0	0	0	0	0	0	0	0
C	F. H. Enhancement	4	Studies	0	0	0	0	0	0	0	0
C	F. H. Enhancement	5	Others	0	0	0	0	0	0	0	0
D	F. H. Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	2	Aerial Surveys (hours flying)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	3	Fall & burn treatment (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	5	Pheromone baiting (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	8	Other	0	0	0	0	0	0	0	0
E	Current Fire/Pest	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	0	0
E	Current Fire/Pest	3	Planting	0	0	0	0	0	0	0	0
E	Current Fire/Pest	4	Brushing	0	0	0	0	0	0	0	0
E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	0
E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	0
E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	0
F	Habitat Supply	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	0
F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	0
F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	0

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
F	Habitat Supply	5	Spacing	0	0	0	0	0	0	0	0
F	Habitat Supply	6	Pruning	0	0	0	0	0	0	0	0
F	Habitat Supply	7	Studies	0	0	0	0	0	0	0	0
F	Habitat Supply	8	Others	0	0	0	0	0	0	0	0
										Check totals:	
Totals				2,025	1,490	1,240	1,200	1,160	1,001,875	9,080	13

MacMillan Bloedel TFL 39/Blk 1 - Stillwater
Table A: Backlog Activities
Aug-06-99

Legal Obligations

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	n/a	n/a	n/a	n/a	n/a	#VALUE!	$0	0
2	Site preparation	0	0	0	0	0	$0	0	0
3	Planting	0	0	0	0	0	$0	0	0
4	Brushing	0	0	0	0	0	$0	0	0
5	Seed purchase	0	0	0	0	0	$0	0	0
6	Max. density spacing	0	0	0	0	0	$0	0	0
7	Pruning	0	0	0	0	0	$0	0	0
	Totals	0	0	0	0	0	#VALUE!	#VALUE!	

Backlog Reforestation

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	150	100	75	50	0	$11,250	$75	0
2	Site preparation	0	0	0	0	0	$0	0	0
3	Site restoration road/land. rehab	276	260	250	150	0	$414,000	1,500	0
4	Planting	35	20	15	15	15	$35,000	1,000	0
5	Brushing	65	65	65	0	0	$61,750	950	0
6	Seed purchase	0	0	0	0	0	$0	0	0
	Totals	526	445	405	215	15	$522,000	$992	

Impeded areas

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2	Site preparation	0	0	0	0	0	$0	0	0
3	Planting	0	0	0	0	0	$0	0	0
4	Brushing	0	0	0	0	0	$0	0	0
5	Seed purchase	0	0	0	0	0	$0	0	0
	Totals	0	0	0	0	0	$0	#DIV/0!	

Backlog Activities - Management Unit Total

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	
2	Site preparation	0	0	0	0	0	0	#DIV/0!	
3	Site restoration road/land. rehab	276	260	250	150	0	414,000	1,500	
4	Planting	35	20	15	15	15	35,000	1,000	
5	Brushing	65	65	65	0	0	61,750	950	
6	Seed purchase	0	0	0	0	0	0	#DIV/0!	
7	Max. density spacing	0	0	0	0	0	0	#DIV/0!	
8	Pruning	0	0	0	0	0	0	#DIV/0!	
9	Studies	0	0	0	0	0	0	0	0
	Totals	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	

MacMillan Bloedel TFL 39/Blk 1 - Stillwater
Table B: Stand Tending Activities
Aug-06-99

	Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	800	800	800	800	800	$60,000	$75	0
2	Spacing	75	85	65	60	60	$150,000	2,000	0
3	Pruning	20	20	20	20	20	$53,600	2,680	0
4	Fertilizing				200	200	#VALUE!	570	0
5	Studies	0	0	0	0	0	$0	0	0
6	Other	50	50	50	50	50	$80,000	1,600	0
	Totals	945	955	935	1130	1130	#VALUE!	#VALUE!	

MacMillan Bloedel TFL 39/Blk 1 - Stillwater
Table C: Forest Health Enhancement Activities
Aug-06-99

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Site rehab	0	0	0	0	0	$0	$0	0
2 Spacing	0	0	0	0	0	$0	0	0
3 Pruning	0	0	0	0	0	$0	0	0
4 Studies	0	0	0	0	0	$0	0	0
5 Others	0	0	0	0	0	$0	0	0
Totals	0	0	0	0	0	$0	#DIV/0!	

MacMillan Bloedel TFL 39/Blk 1 - Stillwater
Table D: Forest Health Maintenance Activities
Aug-06-99

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	**Units**	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Ground Surveys	ha	0	0	0	0	0	$0	$0	0
2 Aerial Surveys	hours of flying time	0	0	0	0	0	$0	0	0
3 Fall and burn treatment	trees	0	0	0	0	0	$0	0	0
4 MSMA treatment	trees	0	0	0	0	0	$0	0	0
5 Pheromone baiting	trees	0	0	0	0	0	$0	0	0
6 Defoliator spraying	ha	0	0	0	0	0	$0	0	0
7 Studies	number	0	0	0	0	0	$0	0	0
8 Other		0	0	0	0	0	$0	0	0
Totals		0	0	0	0	0	$0	#DIV/0!	

MacMillan Bloedel TFL 39/Blk 1 - Stillwater
Table E: Current Fire and Pest Activities
Aug-06-99

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2 Site preparation	0	0	0	0	0	$0	0	0
3 Planting	0	0	0	0	0	$0	0	0
4 Brushing	0	0	0	0	0	$0	0	0
5 Max. density spacing	0	0	0	0	0	$0	0	0
6 Studies	0	0	0	0	0	$0	0	0
7 Other	0	0	0	0	0	$0	0	0
Totals	$0	$0	$0	$0	$0	$0	#DIV/0!	

MacMillan Bloedel TFL 39/Blk 1 - Stillwater
Table F: Habitat Supply Activities
Aug-06-99

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	50	40	0	0	0	$5,000	$100	0
2 Site preparation	0	0	0	0	0	$0	0	0
3 Planting	0	0	0	0	0	$0	0	0
4 Brushing	0	0	0	0	0	$0	0	0
5 Spacing	20	10	10	0	0	$56,000	2,800	0
6 Pruning	0	0	0	0	0	$0	0	0
7 Studies	0	0	0	0	0	$0	0	0
8 Others	0	0	0	0	0	$0	0	0
Totals	70	50	10	0	0	$61,000	$871	

MacMillan Bloedel TFL 39/Blk 1 - Stillwater
Summary Table
Aug-06-99

	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
Table Totals	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	
Table B: Stand Tending Activities	945	955	935	1,130	1,130	#VALUE!	#VALUE!	
Table C: Forest Health Enhancement Activities	0	0	0	0	0	0	#DIV/0!	
Table D: Forest Health Maintenance Activities	0	0	0	0	0	0	#DIV/0!	
Table E: Current Fire and Pest Activities	0	0	0	0	0	0	#DIV/0!	
Table F: Habitat Supply Activities	70	50	10	0	0	61,000	871	
Totals of all tables	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	

Activities Sorted by Priority (Ctl-e)

					Five-Year Plan Goals (ha)					Annual Plan 2000/01		
Table and category			**Activity**		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority
A	Backlog	Legal	1	Planning/surveys/presc.	n/a	n/a	n/a	n/a	n/a	#VALUE!	0	0
A	Backlog	Legal	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog	Legal	3	Planting	0	0	0	0	0	0	0	0
A	Backlog	Legal	4	Brushing	0	0	0	0	0	0	0	0
A	Backlog	Legal	5	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog	Legal	6	Max. density spacing	0	0	0	0	0	0	0	0
A	Backlog	Legal	7	Pruning	0	0	0	0	0	0	0	0
A	Backlog	Backlog	1	Planning/surveys/presc.	150	100	75	50	0	11,250	75	0
A	Backlog	Backlog	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog	Backlog	3	Site Restoration Road/land.	276	260	250	150	0	414,000	1,500	0
A	Backlog	Backlog	4	Planting	35	20	15	15	15	35,000	1,000	0
A	Backlog	Backlog	5	Brushing	65	65	65	0	0	61,750	950	0
A	Backlog	Backlog	6	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog	Impeded	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
A	Backlog Impeded	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog Impeded	3	Planting	0	0	0	0	0	0	0	0
A	Backlog Impeded	4	Brushing	0	0	0	0	0	0	0	0
A	Backlog Impeded	5	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog Total	7	Studies	0	0	0	0	0	0	0	0
B	Stand Tending	1	Planning/surveys/presc.	800	800	800	800	800	60,000	75	0
B	Stand Tending	2	Spacing	75	85	65	60	60	150,000	2,000	0
B	Stand Tending	3	Pruning	20	20	20	20	20	53,600	2,680	0
B	Stand Tending	4	Fertilizing				200	200	#VALUE!	570	0
B	Stand Tending	5	Studies	0	0	0	0	0	0	0	0
B	Stand Tending	6	Other	50	50	50	50	50	80,000	1,600	0
C	F. H. Enhancement	1	Site rehab	0	0	0	0	0	0	0	0
C	F. H. Enhancement	2	Spacing	0	0	0	0	0	0	0	0
C	F. H. Enhancement	3	Pruning	0	0	0	0	0	0	0	0
C	F. H. Enhancement	4	Studies	0	0	0	0	0	0	0	0
C	F. H. Enhancement	5	Others	0	0	0	0	0	0	0	0
D	F. H. Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	2	Aerial Surveys (hours flying)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	3	Fall & burn treatment (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	5	Pheromone baiting (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	8	Other	0	0	0	0	0	0	0	0
E	Current Fire/Pest	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	0	0
E	Current Fire/Pest	3	Planting	0	0	0	0	0	0	0	0
E	Current Fire/Pest	4	Brushing	0	0	0	0	0	0	0	0
E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	0
E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	0
E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	0
F	Habitat Supply	1	Planning/surveys/presc.	50	40	0	0	0	5,000	100	0
F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	0
F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	0
F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	0

Table Totals

			Five-Year Plan Goals (ha)					Annual Plan 2000/01		
			2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
F	Habitat Supply	5 Spacing	20	10	10	0	0	56,000	2,800	0
F	Habitat Supply	6 Pruning	0	0	0	0	0	0	0	0
F	Habitat Supply	7 Studies	0	0	0	0	0	0	0	0
F	Habitat Supply	8 Others	0	0	0	0	0	0	0	0
									Check totals:	
Totals			1,541	1,450	1,350	1,345	1,145	#VALUE!	13,350	0

MacMillan Bloedel Ltd., Port McNeill District, FRBC Sustainable Harvest
Table A: Backlog Activities
Aug. 18, 1999

Legal Obligations

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	9
2	Site preparation	0	0	0	0	0	$0	0	9
3	Planting	0	0	0	0	0	$0	0	9
4	Brushing	0	0	0	0	0	$0	0	9
5	Seed purchase	0	0	0	0	0	$0	0	9
6	Max. density spacing	0	0	0	0	0	$0	0	9
7	Pruning	0	0	0	0	0	$0	0	9
	Totals	0	0	0	0	0	0	#DIV/0!	

Backlog Reforestation

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	1000	1000	1000	900	900	$40,000	$40	1
2	Site preparation	0	0	0	0	0	$0	0	9
3	Site restoration road/land. rehab	0	0	0	0	0	$0	0	9
4	Planting	5	5	5	5	5	$5,000	1,000	1
5	Brushing	100	100	100	100	100	$90,000	900	1
6	Seed purchase	0	0	0	0	0	$0	0	9
	Totals	1105	1105	1105	1005	1005	$135,000	$122	

Impeded areas

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	9
2	Site preparation	0	0	0	0	0	$0	0	9
3	Planting	0	0	0	0	0	$0	0	9
4	Brushing	0	0	0	0	0	$0	0	9
5	Seed purchase	0	0	0	0	0	$0	0	9
	Totals	0	0	0	0	0	$0	#DIV/0!	

Backlog Activities - Management Unit Total

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	1000	1000	1000	900	900	$40,000	$40	
2	Site preparation	0	0	0	0	0	0	#DIV/0!	
3	Site restoration road/land. rehab	0	0	0	0	0	0	#DIV/0!	
4	Planting	5	5	5	5	5	5,000	1,000	
5	Brushing	100	100	100	100	100	90,000	900	
6	Seed purchase	0	0	0	0	0	0	#DIV/0!	
7	Max. density spacing	0	0	0	0	0	0	#DIV/0!	
8	Pruning	0	0	0	0	0	0	#DIV/0!	
9	Studies	0	0	0	0	0	0	0	9
	Totals	1105	1105	1105	1005	1005	$135,000	$122	

MacMillan Bloedel Ltd., Port McNeill District, FRBC Sustainable Harvest

Table B: Stand Tending Activities

Aug. 18, 1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	400	400	400	400	400	$13,200	$33	1
2	Spacing	40	40	40	40	40	$72,000	1,800	2
3	Pruning	0	0	0	0	0	$0	0	9
4	Fertilizing	400	400	400	400	400	$200,000	500	1
5	Studies	0	0	0	0	0	$0	0	9
6	Other	20	20	20	20	20	$60,000	3,000	1
	Totals	860	860	860	860	860	345200	$401	

MacMillan Bloedel Ltd., Port McNeill District, FRBC Sustainable Harvest
Table C: Forest Health Enhancement Activities
Aug. 18, 1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Site rehab	0	0	0	0	0	$0	$0	9
2	Spacing	0	0	0	0	0	$0	0	9
3	Pruning	0	0	0	0	0	$0	0	9
4	Studies	0	0	0	0	0	$0	0	9
5	Others	0	0	0	0	0	$0	0	9
	Totals	0	0	0	0	0	$0	#DIV/0!	

MacMillan Bloedel Ltd., Port McNeill District, FRBC Sustainable Harvest
Table D: Forest Health Maintenance Activities
Aug. 18, 1999

Activities	Units	Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Ground Surveys	ha	0	0	0	0	0	$0	$0	9
2 Aerial Surveys	hours of flying time	0	0	0	0	0	$0	0	9
3 Fall and burn treatment	trees	0	0	0	0	0	$0	0	9
4 MSMA treatment	trees	0	0	0	0	0	$0	0	9
5 Pheromone baiting	trees	0	0	0	0	0	$0	0	9
6 Defoliator spraying	ha	0	0	0	0	0	$0	0	9
7 Studies	number	0	0	0	0	0	$0	0	9
8 Other		0	0	0	0	0	$0	0	9
Totals		0	0	0	0	0	$0	#DIV/0!	

MacMillan Bloedel Ltd., Port McNeill District, FRBC Sustainable Harvest
Table E: Current Fire and Pest Activities
Aug. 18, 1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	9
2	Site preparation	0	0	0	0	0	$0	0	9
3	Planting	0	0	0	0	0	$0	0	9
4	Brushing	0	0	0	0	0	$0	0	9
5	Max. density spacing	0	0	0	0	0	$0	0	9
6	Studies	0	0	0	0	0	$0	0	9
7	Other	0	0	0	0	0	$0	0	9
	Totals	$0	$0	$0	$0	$0	$0	#DIV/0!	

MacMillan Bloedel Ltd., Port McNeill District, FRBC Sustainable Harvest
Table F: Habitat Supply Activities
Aug. 18, 1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	9
2 Site preparation	0	0	0	0	0	$0	0	9
3 Planting	0	0	0	0	0	$0	0	9
4 Brushing	0	0	0	0	0	$0	0	9
5 Spacing	0	0	0	0	0	$0	0	9
6 Pruning	0	0	0	0	0	$0	0	9
7 Studies	0	0	0	0	0	$0	0	9
8 Others	0	0	0	0	0	$0	0	9
Totals	0	0	0	0	0	$0	#DIV/0!	

MacMillan Bloedel Ltd., Port McNeill District, FRBC Sustainable Harvest
Summary Table
Aug. 18, 1999

	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
Table Totals	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	1,105	1,105	1,105	1,005	1,005	135,000	122	
Table B: Stand Tending Activities	860	860	860	860	860	345,200	401	
Table C: Forest Health Enhancement Activities	0	0	0	0	0	0	#DIV/0!	
Table D: Forest Health Maintenance Activities	0	0	0	0	0	0	#DIV/0!	
Table E: Current Fire and Pest Activities	0	0	0	0	0	0	#DIV/0!	
Table F: Habitat Supply Activities	0	0	0	0	0	0	#DIV/0!	
Totals of all tables	1,965	1,965	1,965	1,865	1,865	480,200	244	

Activities Sorted by Priority (Ctl-e)

					Five-Year Plan Goals (ha)					Annual Plan 2000/01		
Table and category			**Activity**		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority
A	Backlog	Legal	1	Planning/surveys/presc.	0	0	0	0	0	0	0	9
A	Backlog	Legal	2	Site preparation	0	0	0	0	0	0	0	9
A	Backlog	Legal	3	Planting	0	0	0	0	0	0	0	9
A	Backlog	Legal	4	Brushing	0	0	0	0	0	0	0	9
A	Backlog	Legal	5	Seed Purchase	0	0	0	0	0	0	0	9
A	Backlog	Legal	6	Max. density spacing	0	0	0	0	0	0	0	9
A	Backlog	Legal	7	Pruning	0	0	0	0	0	0	0	9
A	Backlog	Backlog	1	Planning/surveys/presc.	1,000	1,000	1,000	900	900	40,000	40	1
A	Backlog	Backlog	2	Site preparation	0	0	0	0	0	0	0	9
A	Backlog	Backlog	3	Site Restoration Road/land	0	0	0	0	0	0	0	9
A	Backlog	Backlog	4	Planting	5	5	5	5	5	5,000	1,000	1
A	Backlog	Backlog	5	Brushing	100	100	100	100	100	90,000	900	1
A	Backlog	Backlog	6	Seed Purchase	0	0	0	0	0	0	0	9
A	Backlog	Impeded	1	Planning/surveys/presc.	0	0	0	0	0	0	0	9

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
A	Backlog Impeded	2	Site preparation	0	0	0	0	0	0	0	9
A	Backlog Impeded	3	Planting	0	0	0	0	0	0	0	9
A	Backlog Impeded	4	Brushing	0	0	0	0	0	0	0	9
A	Backlog Impeded	5	Seed Purchase	0	0	0	0	0	0	0	9
A	Backlog Total	7	Studies	0	0	0	0	0	0	0	9
B	Stand Tending	1	Planning/surveys/presc.	400	400	400	400	400	13,200	33	1
B	Stand Tending	2	Spacing	40	40	40	40	40	72,000	1,800	2
B	Stand Tending	3	Pruning	0	0	0	0	0	0	0	9
B	Stand Tending	4	Fertilizing	400	400	400	400	400	200,000	500	1
B	Stand Tending	5	Studies	0	0	0	0	0	0	0	9
B	Stand Tending	6	Other	20	20	20	20	20	60,000	3,000	1
C	F. H. Enhancement	1	Site rehab	0	0	0	0	0	0	0	9
C	F. H. Enhancement	2	Spacing	0	0	0	0	0	0	0	9
C	F. H. Enhancement	3	Pruning	0	0	0	0	0	0	0	9
C	F. H. Enhancement	4	Studies	0	0	0	0	0	0	0	9
C	F. H. Enhancement	5	Others	0	0	0	0	0	0	0	9
D	F. H. Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	0	9
D	F. H. Maintenance	2	Aerial Surveys (hours flying)	0	0	0	0	0	0	0	9
D	F. H. Maintenance	3	Fall & burn treatment (trees)	0	0	0	0	0	0	0	9
D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	9
D	F. H. Maintenance	5	Pheromone baiting (trees)	0	0	0	0	0	0	0	9
D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	9
D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	0	9
D	F. H. Maintenance	8	Other	0	0	0	0	0	0	0	9
E	Current Fire/Pest	1	Planning/surveys/presc.	0	0	0	0	0	0	0	9
E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	0	9
E	Current Fire/Pest	3	Planting	0	0	0	0	0	0	0	9
E	Current Fire/Pest	4	Brushing	0	0	0	0	0	0	0	9
E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	9
E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	9
E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	9
F	Habitat Supply	1	Planning/surveys/presc.	0	0	0	0	0	0	0	9
F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	9
F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	9
F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	9

Table Totals

			Five-Year Plan Goals (ha)					Annual Plan 2000/01		
			2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
F	Habitat Supply	5 Spacing	0	0	0	0	0	0	0	9
F	Habitat Supply	6 Pruning	0	0	0	0	0	0	0	9
F	Habitat Supply	7 Studies	0	0	0	0	0	0	0	9
F	Habitat Supply	8 Others	0	0	0	0	0	0	0	9
									Check totals:	
Totals			1,965	1,965	1,965	1,865	1,865	480,200	7,273	422

TFL 44
Table A: Backlog Activities
August 16, 1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
Legal Obligations		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	
2	Site preparation	0	0	0	0	0	$0	0	
3	Planting	0	0	0	0	0	$0	0	
4	Brushing	0	0	0	0	0	$0	0	
5	Seed purchase	0	0	0	0	0	$0	0	
6	Max. density spacing	0	0	0	0	0	$0	0	
7	Pruning	0	0	0	0	0	$0	0	
	Totals	0	0	0	0	0	$0		
Backlog Reforestation									
1	Planning/surveys/prescriptions	250	230	200	100	100	$8,045	$32	2
2	Site preparation	0	0	0	0	0	$0	0	
3	Site restoration road/land. rehab	0	0	0	0	0	$0	0	
4	Planting	250	230	200	100	100	$316,000	1,264	1
5	Brushing						$0		
6	Seed purchase	0	0	0	0	0	$0	0	
	Totals	500	460	400	200	200	$324,045	$648	
Impeded areas									
1	Planning/surveys/prescriptions	3100	2870	2900	2600	2600	$99,755	$32	2
2	Site preparation	0	0	0	0	0	$0	0	
3	Planting	0	0	0	0	0	$0	0	
4	Brushing (*incl. Spp conversion!*)	550	500	450	450	450	$660,000	1,200	2
5	Seed purchase	0	0	0	0	0	$0	0	
	Totals	3650	3370	3350	3050	3050	$759,755	$208	
Backlog Activities - Management Unit Total									
1	Planning/surveys/prescriptions	3350	3100	3100	2700	2700	$107,800	$32	
2	Site preparation	0	0	0	0	0	$0	0	
3	Site restoration road/land. rehab	0	0	0	0	0	$0	0	
4	Planting	250	230	200	100	100	$316,000	1,264	
5	Brushing	550	500	450	450	450	$660,000	1,200	
6	Seed purchase	0	0	0	0	0	$0	0	
7	Max. density spacing	0	0	0	0	0	$0	0	
8	Pruning	0	0	0	0	0	$0	0	
9	Studies	0	0	0	0	0	$0	0	0
	Totals	4150	3830	3750	3250	3250	$1,083,800	$261	

TFL 44
Table B: Stand Tending Activities
August 16, 1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	2200	2200	2000	2000	2000	$110,000	$50	2
2 Spacing	140	90	90	90	90	$299,000	2,136	3
3 Pruning	0	0	0	0	0	$0	0	0
4 Fertilizing	400	400	400	400	400	$120,000	300	2
5 Studies	0	0	0	0	0	$0	0	0
6 Other (*hydro-riparian restoration*)	150	100	100	100	100	$345,000	2,300	2
Totals	2890	2790	2590	2590	2590	874000	$302	

TFL 44
Table C: Forest Health Enhancement Activities
36388

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Site rehab	0	0	0	0	0	$0	$0	0
2 Spacing	0	0	0	0	0	$0	0	0
3 Pruning	0	0	0	0	0	$0	0	0
4 Studies	0	0	0	0	0	$0	0	0
5 Others	0	0	0	0	0	$0	0	0
Totals	0	0	0	0	0	$0	#DIV/0!	

TFL 44
Table D: Forest Health Maintenance Activities
36388

	Activities	Units	Five-year Plan Goals (ha)					Annual Plan 2000/01		
			2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Ground Surveys	ha	0	0	0	0	0	$0	$0	0
2	Aerial Surveys	hours of flying time	0	0	0	0	0	$0	0	0
3	Fall and burn treatment	trees	0	0	0	0	0	$0	0	0
4	MSMA treatment	trees	0	0	0	0	0	$0	0	0
5	Pheromone baiting	trees	0	0	0	0	0	$0	0	0
6	Defoliator spraying	ha	0	0	0	0	0	$0	0	0
7	Studies	number	0	0	0	0	0	$0	0	0
8	Other		0	0	0	0	0	$0	0	0
	Totals		0	0	0	0	0	$0	#DIV/0!	

TFL 44
Table E: Current Fire and Pest Activities
36388

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2	Site preparation	0	0	0	0	0	$0	0	0
3	Planting	0	0	0	0	0	$0	0	0
4	Brushing	0	0	0	0	0	$0	0	0
5	Max. density spacing	0	0	0	0	0	$0	0	0
6	Studies	0	0	0	0	0	$0	0	0
7	Other	0	0	0	0	0	$0	0	0
	Totals	$0	$0	$0	$0	$0	$0	#DIV/0!	

TFL 44
Table F: Habitat Supply Activities
36388

	Five-year Plan Goals (ha)					Annual Plan 2000/01			
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority	
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0		0
2 Site preparation	0	0	0	0	0	$0	0		0
3 Planting	0	0	0	0	0	$0	0		0
4 Brushing	0	0	0	0	0	$0	0		0
5 Spacing	0	0	0	0	0	$0	0		0
6 Pruning	0	0	0	0	0	$0	0		0
7 Studies	0	0	0	0	0	$0	0		0
8 Others	0	0	0	0	0	$0	0		0
Totals	0	0	0	0	0	$0	#DIV/0!		

6/21/2005

TFL 44
Summary Table
August 16, 1999

	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
Table Totals	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	4,150	3,830	3,750	3,250	3,250	1,083,800	261	
Table B: Stand Tending Activities	2,890	2,790	2,590	2,590	2,590	874,000	302	
Table C: Forest Health Enhancement Activities	0	0	0	0	0	0	#DIV/0!	
Table D: Forest Health Maintenance Activities	0	0	0	0	0	0	#DIV/0!	
Table E: Current Fire and Pest Activities	0	0	0	0	0	0	#DIV/0!	
Table F: Habitat Supply Activities	0	0	0	0	0	0	#DIV/0!	
Totals of all tables	7,040	6,620	6,340	5,840	5,840	1,957,799	278	

Activities Sorted by Priority (Ctl-e)

Table and category			Activity		Five-Year Plan Goals (ha)					Annual Plan 2000/01		
					2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority
A	Backlog	Legal	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
A	Backlog	Legal	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog	Legal	3	Planting	0	0	0	0	0	0	0	0
A	Backlog	Legal	4	Brushing	0	0	0	0	0	0	0	0
A	Backlog	Legal	5	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog	Legal	6	Max. density spacing	0	0	0	0	0	0	0	0
A	Backlog	Legal	7	Pruning	0	0	0	0	0	0	0	0
A	Backlog	Backlog	1	Planning/surveys/presc.	250	230	200	100	100	8,045	32	2
A	Backlog	Backlog	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog	Backlog	3	Site Restoration Road/land.	0	0	0	0	0	0	0	0
A	Backlog	Backlog	4	Planting	250	230	200	100	100	316,000	1,264	1
A	Backlog	Backlog	5	Brushing	0	0	0	0	0	0	1,200	0
A	Backlog	Backlog	6	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog	Impeded	1	Planning/surveys/presc.	3,100	2,870	2,900	2,600	2,600	99,755	32	2

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
A	Backlog Impeded	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog Impeded	3	Planting	0	0	0	0	0	0	0	0
A	Backlog Impeded	4	Brushing	550	500	450	450	450	660,000	1,200	2
A	Backlog Impeded	5	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog Total	7	Studies	0	0	0	0	0	0	0	0
B	Stand Tending	1	Planning/surveys/presc.	2,200	2,200	2,000	2,000	2,000	110,000	50	2
B	Stand Tending	2	Spacing	140	90	90	90	90	299,000	2,136	3
B	Stand Tending	3	Pruning	0	0	0	0	0	0	0	0
B	Stand Tending	4	Fertilizing	400	400	400	400	400	120,000	300	2
B	Stand Tending	5	Studies	0	0	0	0	0	0	0	0
B	Stand Tending	6	Other	150	100	100	100	100	345,000	2,300	2
C	F. H. Enhancement	1	Site rehab	0	0	0	0	0	0	0	0
C	F. H. Enhancement	2	Spacing	0	0	0	0	0	0	0	0
C	F. H. Enhancement	3	Pruning	0	0	0	0	0	0	0	0
C	F. H. Enhancement	4	Studies	0	0	0	0	0	0	0	0
C	F. H. Enhancement	5	Others	0	0	0	0	0	0	0	0
D	F. H. Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	2	Aerial Surveys (hours flying)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	3	Fall & burn treatment (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	5	Pheromone baiting (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	8	Other	0	0	0	0	0	0	0	0
E	Current Fire/Pest	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	0	0
E	Current Fire/Pest	3	Planting	0	0	0	0	0	0	0	0
E	Current Fire/Pest	4	Brushing	0	0	0	0	0	0	0	0
E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	0
E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	0
E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	0
F	Habitat Supply	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	0
F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	0
F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	0

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
F	Habitat Supply	5	Spacing	0	0	0	0	0	0	0	0
F	Habitat Supply	6	Pruning	0	0	0	0	0	0	0	0
F	Habitat Supply	7	Studies	0	0	0	0	0	0	0	0
F	Habitat Supply	8	Others	0	0	0	0	0	0	0	0
Totals				7,040	6,620	6,340	5,840	5,840	1,957,799	Check totals:	

TFL 25 BLK 1
Table B: Stand Tending Activities
JULY 29/99

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/pres	50	100	100	100	0	$6,250	$125	1
2	Spacing	0	0	0	0	0	$0	0	3
3	Pruning	50	50	100	100	100	$75,000	1,500	1
4	Fertilizing	0	800	0	0	200	$0	0	1
5	Studies	0	0	0	0	0	$0	0	0
6	Other	0	0	0	0	0	$0	0	0
	Totals	100	950	200	200	300	81250	$813	

TFL 25 Blk 1 South Island District
Summary Table
August 16, 1999

Table Totals	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	0	0	0	0	0	0	0	
Table B: Stand Tending Activities	100	950	200	200	300	81,250	813	
Table C: Forest Health Enhancement Activities	0	0	0	0	0	0	#DIV/0!	
Table D: Forest Health Maintenance Activities	0	0	0	0	0	0	#DIV/0!	
Table E: Current Fire and Pest Activities	0	0	0	0	0	0	#DIV/0!	
Table F: Habitat Supply Activities	0	0	0	0	0	0	#DIV/0!	
Totals of all tables	100	950	200	200	300	81,250	812	

Activities Sorted by Priority (Ctl-e)

Table and category			Activity		Five-Year Plan Goals (ha)					Annual Plan 2000/01		
					2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority
A	Backlog	Legal	1	Planning/surveys/presc.	0	0	0	0	0	$0	$0	0
A	Backlog	Legal	2	Site preparation	0	0	0	0	0	$0	0	0
A	Backlog	Legal	3	Planting	0	0	0	0	0	$0	0	0
A	Backlog	Legal	4	Brushing	0	0	0	0	0	$0	0	0
A	Backlog	Legal	5	Seed Purchase	0	0	0	0	0	$0	0	0
A	Backlog	Legal	6	Max. density spacing	0	0	0	0	0	$0	0	0
A	Backlog	Legal	7	Pruning	0	0	0	0	0	$0	0	0
A	Backlog	Backlog	1	Planning/surveys/presc.	0	0	0	0	0	$0	$0	2
A	Backlog	Backlog	2	Site preparation	0	0	0	0	0	$0	0	0
A	Backlog	Backlog	3	Site Restoration Road/land.	0	0	0	0	0	$0	0	0
A	Backlog	Backlog	4	Planting	0	0	0	0	0	$0	0	1
A	Backlog	Backlog	5	Brushing	0	0	0	0	0	$0	0	0
A	Backlog	Backlog	6	Seed Purchase	0	0	0	0	0	$0	0	0
A	Backlog	Impeded	1	Planning/surveys/presc.	0	0	0	0	0	$0	$0	2

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
A	Backlog Impeded	2	Site preparation	0	0	0	0	0	$0	0	0
A	Backlog Impeded	3	Planting	0	0	0	0	0	$0	0	0
A	Backlog Impeded	4	Brushing	0	0	0	0	0	$0	0	2
A	Backlog Impeded	5	Seed Purchase	0	0	0	0	0	$0	0	0
A	Backlog Total	7	Studies	0	0	0	0	0	0	0	0
B	Stand Tending	1	Planning/surveys/presc.	50	100	100	100	0	$6,250	$125	2
B	Stand Tending	2	Spacing	0	0	0	0	0	$0	0	3
B	Stand Tending	3	Pruning	50	50	100	100	100	$75,000	1,500	0
B	Stand Tending	4	Fertilizing	0	800	0	0	200	$0	600	2
B	Stand Tending	5	Studies	0	0	0	0	0	$0	0	0
B	Stand Tending	6	Other	0	0	0	0	0	$0	0	2
C	F. H. Enhancement	1	Site rehab	0	0	0	0	0	0	0	0
C	F. H. Enhancement	2	Spacing	0	0	0	0	0	0	0	0
C	F. H. Enhancement	3	Pruning	0	0	0	0	0	0	0	0
C	F. H. Enhancement	4	Studies	0	0	0	0	0	0	0	0
C	F. H. Enhancement	5	Others	0	0	0	0	0	0	0	0
D	F. H. Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	2	Aerial Surveys (hours flying	0	0	0	0	0	0	0	0
D	F. H. Maintenance	3	Fall & burn treatment (trees	0	0	0	0	0	0	0	0
D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	5	Pheromone baiting (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	8	Other	0	0	0	0	0	0	0	0
E	Current Fire/Pest	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	0	0
E	Current Fire/Pest	3	Planting	0	0	0	0	0	0	0	0
E	Current Fire/Pest	4	Brushing	0	0	0	0	0	0	0	0
E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	0
E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	0
E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	0
F	Habitat Supply	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	0
F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	0
F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	0

Table Totals

			Five-Year Plan Goals (ha)					Annual Plan 2000/01		
			2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
F	Habitat Supply	5 Spacing	0	0	0	0	0	0	0	0
F	Habitat Supply	6 Pruning	0	0	0	0	0	0	0	0
F	Habitat Supply	7 Studies	0	0	0	0	0	0	0	0
F	Habitat Supply	8 Others	0	0	0	0	0	0	0	0
Totals			100	950	200	200	300	81,250	Check totals:	

TFL 45 Campbell River District
Table A: Backlog Activities
August 17,1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
Legal Obligations		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2	Site preparation	0	0	0	0	0	$0	0	0
3	Planting	0	0	0	0	0	$0	0	0
4	Brushing	0	0	0	0	0	$0	0	0
5	Seed purchase	0	0	0	0	0	$0	0	0
6	Max. density spacing	0	0	0	0	0	$0	0	0
7	Pruning	0	0	0	0	0	$0	0	0
	Totals	0	0	0	0	0	0	#DIV/0!	
Backlog Reforestation									
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2	Site preparation	0	0	0	0	0	$0	0	0
3	Site restoration road/land. rehab	0	0	0	0	0	$0	0	0
4	Planting	0	0	0	0	0	$0	0	0
5	Brushing	50	0	0	0	0	$75,000	1,500	1
6	Seed purchase	0	0	0	0	0	$0	0	0
	Totals	50	0	0	0	0	$75,000	$1,500	
Impeded areas									
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2	Site preparation	0	0	0	0	0	$0	0	0
3	Planting	0	0	0	0	0	$0	0	0
4	Brushing	0	0	0	0	0	$0	0	0
5	Seed purchase	0	0	0	0	0	$0	0	0
	Totals	0	0	0	0	0	$0	#DIV/0!	
Backlog Activities - Management Unit Total									
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	#DIV/0!	
2	Site preparation	0	0	0	0	0	0	#DIV/0!	
3	Site restoration road/land. rehab	0	0	0	0	0	0	#DIV/0!	
4	Planting	0	0	0	0	0	0	#DIV/0!	
5	Brushing	50	0	0	0	0	75,000	1,500	
6	Seed purchase	0	0	0	0	0	0	#DIV/0!	
7	Max. density spacing	0	0	0	0	0	0	#DIV/0!	
8	Pruning	0	0	0	0	0	0	#DIV/0!	
9	Studies	0	0	0	0	0	0	0	0
	Totals	50	0	0	0	0	$75,000	$1,500	

TFL 45 Campbell River District
Table B: Stand Tending Activities
August 17,1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2	Spacing	0	75	75	75	75	$0	0	0
3	Pruning	50	75	75	75	75	$300,000	6,000	1
4	Fertilizing	50	200	20	200	200	$30,000	600	1
5	Studies	0	0	0	0	0	$0	0	0
6	Other	0	0	0	0	0	$0	0	0
	Totals	100	350	170	350	350	330000	$3,300	

TFL 45 Campbell River District
Table C: Forest Health Enhancement Activities
August 17,1999

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Site rehab	0	0	0	0	0	$0	$0	0
2 Spacing	0	0	0	0	0	$0	0	0
3 Pruning	0	0	0	0	0	$0	0	0
4 Studies	0	0	0	0	0	$0	0	0
5 Others	0	0	0	0	0	$0	0	0
Totals	0	0	0	0	0	$0	#DIV/0!	

TFL 45 Campbell River District
Table D: Forest Health Maintenance Activities
August 17,1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	**Units**	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Ground Surveys	ha	0	0	0	0	0	$0	$0	0
2 Aerial Surveys	hours of flying time	0	0	0	0	0	$0	0	0
3 Fall and burn treatment	trees	0	0	0	0	0	$0	0	0
4 MSMA treatment	trees	0	0	0	0	0	$0	0	0
5 Pheromone baiting	trees	0	0	0	0	0	$0	0	0
6 Defoliator spraying	ha	0	0	0	0	0	$0	0	0
7 Studies	number	0	0	0	0	0	$0	0	0
8 Other		0	0	0	0	0	$0	0	0
Totals		0	0	0	0	0	$0	#DIV/0!	

TFL 45 Campbell River District
Table E: Current Fire and Pest Activities
August 17,1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2	Site preparation	0	0	0	0	0	$0	0	0
3	Planting	0	0	0	0	0	$0	0	0
4	Brushing	0	0	0	0	0	$0	0	0
5	Max. density spacing	0	0	0	0	0	$0	0	0
6	Studies	0	0	0	0	0	$0	0	0
7	Other	0	0	0	0	0	$0	0	0
	Totals	$0	$0	$0	$0	$0	$0	#DIV/0!	

TFL 45 Campbell River District
Table F: Habitat Supply Activities
August 17,1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2 Site preparation	0	0	0	0	0	$0	0	0
3 Planting	0	0	0	0	0	$0	0	0
4 Brushing	0	0	0	0	0	$0	0	0
5 Spacing	0	0	0	0	0	$0	0	0
6 Pruning	0	0	0	0	0	$0	0	0
7 Studies	0	0	0	0	0	$0	0	0
8 Others	0	0	0	0	0	$0	0	0
Totals	0	0	0	0	0	$0	#DIV/0!	

TFL 45 Campbell River District
Summary Table
August 17,1999

	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
Table Totals	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	50	0	0	0	0	75,000	1,500	
Table B: Stand Tending Activities	100	350	170	350	350	330,000	3,300	
Table C: Forest Health Enhancement Activities	0	0	0	0	0	0	#DIV/0!	
Table D: Forest Health Maintenance Activities	0	0	0	0	0	0	#DIV/0!	
Table E: Current Fire and Pest Activities	0	0	0	0	0	0	#DIV/0!	
Table F: Habitat Supply Activities	0	0	0	0	0	0	#DIV/0!	
Totals of all tables	150	350	170	350	350	405,000	2,700	

Activities Sorted by Priority (Ctl-e)

Table and category			Activity		Five-Year Plan Goals (ha)					Annual Plan 2000/01		
					2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority
A	Backlog	Legal	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
A	Backlog	Legal	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog	Legal	3	Planting	0	0	0	0	0	0	0	0
A	Backlog	Legal	4	Brushing	0	0	0	0	0	0	0	0
A	Backlog	Legal	5	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog	Legal	6	Max. density spacing	0	0	0	0	0	0	0	0
A	Backlog	Legal	7	Pruning	0	0	0	0	0	0	0	0
A	Backlog	Backlog	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
A	Backlog	Backlog	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog	Backlog	3	Site Restoration Road/land.	0	0	0	0	0	0	0	0
A	Backlog	Backlog	4	Planting	0	0	0	0	0	0	0	0
A	Backlog	Backlog	5	Brushing	50	0	0	0	0	75,000	1,500	1
A	Backlog	Backlog	6	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog	Impeded	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
A	Backlog Impeded	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog Impeded	3	Planting	0	0	0	0	0	0	0	0
A	Backlog Impeded	4	Brushing	0	0	0	0	0	0	0	0
A	Backlog Impeded	5	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog Total	7	Studies	0	0	0	0	0	0	0	0
B	Stand Tending	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
B	Stand Tending	2	Spacing	0	75	75	75	75	0	0	0
B	Stand Tending	3	Pruning	50	75	75	75	75	300,000	6,000	1
B	Stand Tending	4	Fertilizing	50	200	20	200	200	30,000	600	1
B	Stand Tending	5	Studies	0	0	0	0	0	0	0	0
B	Stand Tending	6	Other	0	0	0	0	0	0	0	0
C	F. H. Enhancement	1	Site rehab	0	0	0	0	0	0	0	0
C	F. H. Enhancement	2	Spacing	0	0	0	0	0	0	0	0
C	F. H. Enhancement	3	Pruning	0	0	0	0	0	0	0	0
C	F. H. Enhancement	4	Studies	0	0	0	0	0	0	0	0
C	F. H. Enhancement	5	Others	0	0	0	0	0	0	0	0
D	F. H. Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	2	Aerial Surveys (hours flying)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	3	Fall & burn treatment (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	5	Pheromone baiting (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	8	Other	0	0	0	0	0	0	0	0
E	Current Fire/Pest	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	0	0
E	Current Fire/Pest	3	Planting	0	0	0	0	0	0	0	0
E	Current Fire/Pest	4	Brushing	0	0	0	0	0	0	0	0
E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	0
E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	0
E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	0
F	Habitat Supply	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	0
F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	0
F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	0

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
F	Habitat Supply	5	Spacing	0	0	0	0	0	0	0	0
F	Habitat Supply	6	Pruning	0	0	0	0	0	0	0	0
F	Habitat Supply	7	Studies	0	0	0	0	0	0	0	0
F	Habitat Supply	8	Others	0	0	0	0	0	0	0	0
										Check totals:	
Totals				150	350	170	350	350	405,000	8,100	3

TFL 45 Port McNeill District
Table A: Backlog Activities
August 17,1999

Legal Obligations

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2	Site preparation	0	0	0	0	0	$0	0	0
3	Planting	0	0	0	0	0	$0	0	0
4	Brushing	0	0	0	0	0	$0	0	0
5	Seed purchase	0	0	0	0	0	$0	0	0
6	Max. density spacing	0	0	0	0	0	$0	0	0
7	Pruning	0	0	0	0	0	$0	0	0
	Totals	0	0	0	0	0	0	#DIV/0!	

Backlog Reforestation

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	100	100	100	$0	$0	0
2	Site preparation	0	0	0	0	0	$0	0	0
3	Site restoration road/land. rehab	0	0	0	0	0	$0	0	0
4	Planting	0	0	0	0	0	$0	0	0
5	Brushing	0	0	75	50	25	$0	0	0
6	Seed purchase	0	0	0	0	0	$0	0	0
	Totals	0	0	175	150	125	$0	#DIV/0!	

Impeded areas

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2	Site preparation	0	0	0	0	0	$0	0	0
3	Planting	0	0	0	0	0	$0	0	0
4	Brushing	0	0	0	0	0	$0	0	0
5	Seed purchase	0	0	0	0	0	$0	0	0
	Totals	0	0	0	0	0	$0	#DIV/0!	

Backlog Activities - Management Unit Total

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	100	100	100	$0	#DIV/0!	
2	Site preparation	0	0	0	0	0	0	#DIV/0!	
3	Site restoration road/land. rehab	0	0	0	0	0	0	#DIV/0!	
4	Planting	0	0	0	0	0	0	#DIV/0!	
5	Brushing	0	0	75	50	25	0	#DIV/0!	
6	Seed purchase	0	0	0	0	0	0	#DIV/0!	
7	Max. density spacing	0	0	0	0	0	0	#DIV/0!	
8	Pruning	0	0	0	0	0	0	#DIV/0!	
9	Studies	0	0	0	0	0	0	0	0
	Totals	0	0	175	150	125	$0	$0	

TFL 45 Port McNeill District
Table B: Stand Tending Activities
August 17,1999

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	50	50	25	0	$0	$0	0
2 Spacing	0	35	25	0	0	$0	0	0
3 Pruning	0	0	0	0	0	$0	0	0
4 Fertilizing	0	50	25	25	0	$0	0	0
5 Studies	0	0	0	0	0	$0	0	0
6 Other	0	0	0	0	0	$0	0	0
Totals	0	135	100	50	0	0	#DIV/0!	

TFL 45 Port McNeill District
Table C: Forest Health Enhancement Activities
August 17,1999

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Site rehab	0	0	0	0	0	$0	$0	0
2 Spacing	0	0	0	0	0	$0	0	0
3 Pruning	0	0	0	0	0	$0	0	0
4 Studies	0	0	0	0	0	$0	0	0
5 Others	0	0	0	0	0	$0	0	0
Totals	0	0	0	0	0	$0	#DIV/0!	

TFL 45 Port McNeill District
Table D: Forest Health Maintenance Activities
August 17,1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	**Units**	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Ground Surveys	ha	0	0	0	0	0	$0	$0	0
2 Aerial Surveys	hours of flying time	0	0	0	0	0	$0	0	0
3 Fall and burn treatment	trees	0	0	0	0	0	$0	0	0
4 MSMA treatment	trees	0	0	0	0	0	$0	0	0
5 Pheromone baiting	trees	0	0	0	0	0	$0	0	0
6 Defoliator spraying	ha	0	0	0	0	0	$0	0	0
7 Studies	number	0	0	0	0	0	$0	0	0
8 Other		0	0	0	0	0	$0	0	0
Totals		0	0	0	0	0	$0	#DIV/0!	

TFL 45 Port McNeill District
Table E: Current Fire and Pest Activities
August 17,1999

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2 Site preparation	0	0	0	0	0	$0	0	0
3 Planting	0	0	0	0	0	$0	0	0
4 Brushing	0	0	0	0	0	$0	0	0
5 Max. density spacing	0	0	0	0	0	$0	0	0
6 Studies	0	0	0	0	0	$0	0	0
7 Other	0	0	0	0	0	$0	0	0
Totals	$0	$0	$0	$0	$0	$0	#DIV/0!	

TFL 45 Port McNeill District
Table F: Habitat Supply Activities
August 17,1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2	Site preparation	0	0	0	0	0	$0	0	0
3	Planting	0	0	0	0	0	$0	0	0
4	Brushing	0	0	0	0	0	$0	0	0
5	Spacing	0	0	0	0	0	$0	0	0
6	Pruning	0	0	0	0	0	$0	0	0
7	Studies	0	0	0	0	0	$0	0	0
8	Others	0	0	0	0	0	$0	0	0
	Totals	0	0	0	0	0	$0	#DIV/0!	

TFL 45 Port McNeill District
Summary Table
August 17,1999

Table Totals	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	0	0	175	150	125	0	0	
Table B: Stand Tending Activities	0	135	100	50	0	0	#DIV/0!	
Table C: Forest Health Enhancement Activities	0	0	0	0	0	0	#DIV/0!	
Table D: Forest Health Maintenance Activities	0	0	0	0	0	0	#DIV/0!	
Table E: Current Fire and Pest Activities	0	0	0	0	0	0	#DIV/0!	
Table F: Habitat Supply Activities	0	0	0	0	0	0	#DIV/0!	
Totals of all tables	0	135	275	200	125	0	0	

Activities Sorted by Priority (Ctl-e)

Table and category			Activity		Five-Year Plan Goals (ha)					Annual Plan 2000/01		
					2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority
A	Backlog	Legal	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
A	Backlog	Legal	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog	Legal	3	Planting	0	0	0	0	0	0	0	0
A	Backlog	Legal	4	Brushing	0	0	0	0	0	0	0	0
A	Backlog	Legal	5	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog	Legal	6	Max. density spacing	0	0	0	0	0	0	0	0
A	Backlog	Legal	7	Pruning	0	0	0	0	0	0	0	0
A	Backlog	Backlog	1	Planning/surveys/presc.	0	0	100	100	100	0	0	0
A	Backlog	Backlog	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog	Backlog	3	Site Restoration Road/land.	0	0	0	0	0	0	0	0
A	Backlog	Backlog	4	Planting	0	0	0	0	0	0	0	0
A	Backlog	Backlog	5	Brushing	0	0	75	50	25	0	0	0
A	Backlog	Backlog	6	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog	Impeded	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
A	Backlog Impeded	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog Impeded	3	Planting	0	0	0	0	0	0	0	0
A	Backlog Impeded	4	Brushing	0	0	0	0	0	0	0	0
A	Backlog Impeded	5	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog Total	7	Studies	0	0	0	0	0	0	0	0
B	Stand Tending	1	Planning/surveys/presc.	0	50	50	25	0	0	0	0
B	Stand Tending	2	Spacing	0	35	25	0	0	0	0	0
B	Stand Tending	3	Pruning	0	0	0	0	0	0	0	0
B	Stand Tending	4	Fertilizing	0	50	25	25	0	0	0	0
B	Stand Tending	5	Studies	0	0	0	0	0	0	0	0
B	Stand Tending	6	Other	0	0	0	0	0	0	0	0
C	F. H. Enhancement	1	Site rehab	0	0	0	0	0	0	0	0
C	F. H. Enhancement	2	Spacing	0	0	0	0	0	0	0	0
C	F. H. Enhancement	3	Pruning	0	0	0	0	0	0	0	0
C	F. H. Enhancement	4	Studies	0	0	0	0	0	0	0	0
C	F. H. Enhancement	5	Others	0	0	0	0	0	0	0	0
D	F. H. Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	2	Aerial Surveys (hours flying)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	3	Fall & burn treatment (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	5	Pheromone baiting (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	8	Other	0	0	0	0	0	0	0	0
E	Current Fire/Pest	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	0	0
E	Current Fire/Pest	3	Planting	0	0	0	0	0	0	0	0
E	Current Fire/Pest	4	Brushing	0	0	0	0	0	0	0	0
E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	0
E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	0
E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	0
F	Habitat Supply	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	0
F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	0
F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	0

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
F	Habitat Supply	5	Spacing	0	0	0	0	0	0	0	0
F	Habitat Supply	6	Pruning	0	0	0	0	0	0	0	0
F	Habitat Supply	7	Studies	0	0	0	0	0	0	0	0
F	Habitat Supply	8	Others	0	0	0	0	0	0	0	0
										Check totals:	
Totals				0	135	275	200	125	0	0	0

TFL 46
Table A: Backlog Activities
August 7,1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Legal Obligations								
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	9
2 Site preparation	0	0	0	0	0	$0	0	9
3 Planting	0	0	0	0	0	$0	0	9
4 Brushing	0	0	0	0	0	$0	0	9
5 Seed purchase	0	0	0	0	0	$0	0	9
6 Max. density spacing	0	0	0	0	0	$0	0	9
7 Pruning	0	0	0	0	0	$0	0	9
Totals	0	0	0	0	0	0	#DIV/0!	
Backlog Reforestation								
1 Planning/surveys/prescriptions	200	0	0	0	0	$8,000	$40	2
2 Site preparation	0	5	0	0	0	$0	1,000	3
3 Site restoration road/land. rehab	0	0	0	0	0	$0	0	9
4 Planting	0	5	0	0	0	$0	1,000	3
5 Brushing	0	5	5	0	0	$0	750	3
6 Seed purchase	5	0	0	0	0	$450	90	3
Totals	205	15	5	0	0	$8,450	$41	
Impeded areas								
1 Planning/surveys/prescriptions	800	0	0	0	0	$32,000	$40	2
2 Site preparation	0	0	0	0	0	$0	0	9
3 Planting	0	0	0	0	0	$0	0	9
4 Brushing	20	20	20	20	20	$24,000	1,200	2
5 Seed purchase	0	0	0	0	0	$0	0	9
Totals	820	20	20	20	20	$56,000	$68	
Backlog Activities - Management Unit Total								
1 Planning/surveys/prescriptions	1000	0	0	0	0	$40,000	$40	
2 Site preparation	0	5	0	0	0	0	#DIV/0!	
3 Site restoration road/land. rehab	0	0	0	0	0	0	#DIV/0!	
4 Planting	0	5	0	0	0	0	#DIV/0!	
5 Brushing	20	25	25	20	20	24,000	1,200	
6 Seed purchase	5	0	0	0	0	450	90	
7 Max. density spacing	0	0	0	0	0	0	#DIV/0!	
8 Pruning	0	0	0	0	0	0	#DIV/0!	
9 Studies	1	1	0	1	0	6,000	6,000	2
Totals	1026	36	25	21	20	$70,450	$69	

TFL 46
Table B: Stand Tending Activities
August 7,1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	4500	1200	700	700	700	$49,500	$11	2
2 Spacing	10	70	240	240	250	$8,000	800	3
3 Pruning	0	0	0	0	0	$0	0	9
4 Fertilizing	2100	1200	300	300	300	$525,000	250	2
5 Studies	1	1	1	1	1	$7,500	7,500	2
6 Other	0	0	0	0	0	$0	0	9
Totals	6611	2471	1241	1241	1251	590000	$89	

TFL 46
Table C: Forest Health Enhancement Activities
August 7,1999

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Site rehab	5	5	5	5	5	$10,000	$2,000	2
2 Spacing	0	0	0	0	0	$0	0	9
3 Pruning	0	0	0	0	0	$0	0	9
4 Studies	0	0	0	0	0	$0	0	9
5 Others	0	0	0	0	0	$0	0	9
Totals	5	5	5	5	5	$10,000	$2,000	

TFL 46
Table D: Forest Health Maintenance Activities
August 7,1999

			Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	Units	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Ground Surveys	ha	0	0	0	0	0	$0	$0	9
2	Aerial Surveys	flying time	3	3	3	3	3	$3,000	1,000	1
3	Fall and burn treatment	trees	0	0	0	0	0	$0	0	9
4	MSMA treatment	trees	0	0	0	0	0	$0	0	9
5	Pheromone baiting	trees	0	0	0	0	0	$0	0	9
6	Defoliator spraying	ha	0	0	0	0	0	$0	0	9
7	Studies	number	0	0	0	0	0	$0	0	9
8	Other		0	0	0	0	0	$0	0	9
	Totals		3	3	3	3	3	$3,000	$1,000	

TFL 46
Table E: Current Fire and Pest Activities
August 7,1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	8	8	8	8	8	$1,200	$150	1
2	Site preparation	0	0	0	0	0	$0	0	9
3	Planting	8	8	8	8	8	$12,000	1,500	1
4	Brushing	2	2	2	2	2	$2,400	1,200	1
5	Max. density spacing	0	0	0	0	0	$0	0	9
6	Studies	0	0	0	0	0	$0	0	9
7	Other	0	0	0	0	0	$0	0	9
	Totals	$18	$18	$18	$18	$18	$15,600	$867	

TFL 46
Table F: Habitat Supply Activities
August 7,1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	200	200	200	200	200	$24,000	$120	1
2 Site preparation	0	0	0	0	0	$0	0	9
3 Planting	0	0	0	0	0	$0	0	9
4 Brushing	0	0	0	0	0	$0	0	9
5 Spacing	10	10	10	10	10	$12,000	1,200	3
6 Pruning	0	0	0	0	0	$0	0	9
7 Studies	0	0	0	0	0	$0	0	9
8 Others	0	0	0	0	0	$0	0	9
Totals	210	210	210	210	210	$36,000	$171	

TFL 46
Summary Table
August 7,1999

Table Totals	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
	Five-Year Plan Goals (ha)					**Annual Plan 2000/01**		
Table A: Backlog Activities	1,026	36	25	21	20	70,450	69	
Table B: Stand Tending Activities	6,611	2,471	1,241	1,241	1,251	590,000	89	
Table C: Forest Health Enhancement Activities	5	5	5	5	5	10,000	2,000	
Table D: Forest Health Maintenance Activities	3	3	3	3	3	3,000	1,000	
Table E: Current Fire and Pest Activities	18	18	18	18	18	15,600	867	
Table F: Habitat Supply Activities	210	210	210	210	210	36,000	171	
Totals of all tables	7,873	2,743	1,502	1,498	1,507	725,050	92	

Activities Sorted by Priority (Ctl-e)

Table and category		Activity		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man Unit Priority
				Five-Year Plan Goals (ha)					**Annual Plan 2000/01**		
A	Backlog Legal	1	Planning/surveys/presc	0	0	0	0	0	0	0	9
A	Backlog Legal	2	Site preparation	0	0	0	0	0	0	0	9
A	Backlog Legal	3	Planting	0	0	0	0	0	0	0	9
A	Backlog Legal	4	Brushing	0	0	0	0	0	0	0	9
A	Backlog Legal	5	Seed Purchase	0	0	0	0	0	0	0	9
A	Backlog Legal	6	Max. density spacing	0	0	0	0	0	0	0	9
A	Backlog Legal	7	Pruning	0	0	0	0	0	0	0	9
A	Backlog Backlog	1	Planning/surveys/presc	200	0	0	0	0	8,000	40	2
A	Backlog Backlog	2	Site preparation	0	5	0	0	0	0	1,000	3
A	Backlog Backlog	3	Site Restoration Road/land	0	0	0	0	0	0	0	9
A	Backlog Backlog	4	Planting	0	5	0	0	0	0	1,000	3
A	Backlog Backlog	5	Brushing	0	5	5	0	0	0	750	3
A	Backlog Backlog	6	Seed Purchase	5	0	0	0	0	450	90	3
A	Backlog Impeded	1	Planning/surveys/presc	800	0	0	0	0	32,000	40	2
A	Backlog Impeded	2	Site preparation	0	0	0	0	0	0	0	9
A	Backlog Impeded	3	Planting	0	0	0	0	0	0	0	9
A	Backlog Impeded	4	Brushing	20	20	20	20	20	24,000	1,200	2
A	Backlog Impeded	5	Seed Purchase	0	0	0	0	0	0	0	9
A	Backlog Total	7	Studies	1	1	0	1	0	6,000	6,000	2
B	Stand Tending	1	Planning/surveys/presc.	4,500	1,200	700	700	700	49,500	11	2
B	Stand Tending	2	Spacing	10	70	240	240	250	8,000	800	3
B	Stand Tending	3	Pruning	0	0	0	0	0	0	0	9
B	Stand Tending	4	Fertilizing	2,100	1,200	300	300	300	525,000	250	2
B	Stand Tending	5	Studies	1	1	1	1	1	7,500	7,500	2
B	Stand Tending	6	Other	0	0	0	0	0	0	0	9
C	F. H. Enhancement	1	Site rehab	5	5	5	5	5	10,000	2,000	2
C	F. H. Enhancement	2	Spacing	0	0	0	0	0	0	0	9
C	F. H. Enhancement	3	Pruning	0	0	0	0	0	0	0	9
C	F. H. Enhancement	4	Studies	0	0	0	0	0	0	0	9
C	F. H. Enhancement	5	Others	0	0	0	0	0	0	0	9
D	F. H. Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	0	9
D	F. H. Maintenance	2	Aerial Surveys (hours flying)	3	3	3	3	3	3,000	1,000	1
D	F. H. Maintenance	3	Fall & burn treatment (trees)	0	0	0	0	0	0	0	9
D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	9
D	F. H. Maintenance	5	Pheromone baiting (trees)	0	0	0	0	0	0	0	9
D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	9
D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	0	9
D	F. H. Maintenance	8	Other	0	0	0	0	0	0	0	9
E	Current Fire/Pest	1	Planning/surveys/presc	8	8	8	8	8	1,200	150	1
E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	0	9
E	Current Fire/Pest	3	Planting	8	8	8	8	8	12,000	1,500	1
E	Current Fire/Pest	4	Brushing	2	2	2	2	2	2,400	1,200	1
E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	9
E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	9
E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	9
F	Habitat Supply	1	Planning/surveys/presc	200	200	200	200	200	24,000	120	1
F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	9
F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	9
F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	9
F	Habitat Supply	5	Spacing	10	10	10	10	10	12,000	1,200	3
F	Habitat Supply	6	Pruning	0	0	0	0	0	0	0	9
F	Habitat Supply	7	Studies	0	0	0	0	0	0	0	9
F	Habitat Supply	8	Others	0	0	0	0	0	0	0	9
										Check totals	
Totals				7,873	2,743	1,502	1,498	1,507	725,050	25,851	345

District Summary Table
Prepared: August 10th, 1999

Table Totals	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($)	Average Unit Cost ($)	Priority
Table A: Backlog Activities	8,001	6,051	5,480	4,426	4,375	1,704,350	213	
Table B: Stand Tending Activities	13,281	9,891	7,661	7,656	6,741	2,781,150	209	
Table C: Forest Health Enhancement Activities	105	185	185	145	105	71,600	682	
Table D: Forest Health Maintenance Activities	110	110	110	110	110	13,000	118	
Table E: Current Fire and Pest Activities	18	18	18	18	18	15,600	866	
Table F: Habitat Supply Activities	265	265	265	265	265	64,000	242	
Totals of all tables	21,780	16,520	13,719	12,620	11,614	4,649,699	213	

						Five-Year Plan Goals (ha)					Annual Plan 2000/01			
Management Unit	**Table and category**			**Activity**		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Average Unit Cost ($)	District Priority	Regional Priority
District Totals	A	Backlog	Legal	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0	0
District Totals	A	Backlog	Legal	2	Site preparation	0	0	0	0	0	0	0	0	0
District Totals	A	Backlog	Legal	3	Planting	0	0	0	0	0	0	0	0	0
District Totals	A	Backlog	Legal	4	Brushing	0	0	0	0	0	0	0	0	0
District Totals	A	Backlog	Legal	5	Seed Purchase	0	0	0	0	0	0	0	0	0
District Totals	A	Backlog	Legal	6	Max. density spacing	0	0	0	0	0	0	0	0	0
District Totals	A	Backlog	Legal	7	Pruning	0	0	0	0	0	0	0	0	0
District Totals	A	Backlog	Backlog	1	Planning/surveys/presc.	620	395	320	200	200	23,545	38	2	0
District Totals	A	Backlog	Backlog	2	Site preparation	0	5	0	0	0	0	0	0	0
District Totals	A	Backlog	Backlog	3	Site Restoration Road/land	0	0	0	0	0	0	0	0	0
District Totals	A	Backlog	Backlog	4	Planting	305	255	215	105	105	431,000	1,413	2	0
District Totals	A	Backlog	Backlog	5	Brushing	0	5	5	0	0	0	#DIV/0!	2	0
District Totals	A	Backlog	Backlog	6	Seed Purchase	5	0	0	0	0	450	90	2	0
District Totals	A	Backlog	Impeded	1	Planning/surveys/presc.	6,160	4,630	4,280	3,550	3,500	211,355	34	2	0
District Totals	A	Backlog	Impeded	2	Site preparation	0	0	0	0	0	0	0	0	0
District Totals	A	Backlog	Impeded	3	Planting	0	0	0	0	0	0	0	0	0
District Totals	A	Backlog	Impeded	4	Brushing	910	760	660	570	570	1,032,000	1,134	2	0
District Totals	A	Backlog	Impeded	5	Seed Purchase	0	0	0	0	0	0	0	0	0
District Totals	A	Backlog	Total	7	Studies	1	1	0	1	0	6,000	5,976	2	0
District Totals	B	Stand Tending		1	Planning/surveys/presc.	8,790	5,540	4,820	4,815	4,200	247,750	28	3	0
District Totals	B	Stand Tending		2	Spacing	540	550	690	690	690	835,900	1,548	3	0
District Totals	B	Stand Tending		3	Pruning	300	300	350	350	350	450,000	1,500	3	0
District Totals	B	Stand Tending		4	Fertilizing	3,500	3,400	1,700	1,700	1,400	895,000	256	2	0
District Totals	B	Stand Tending		5	Studies	1	1	1	1	1	7,500	7,493	3	0
District Totals	B	Stand Tending		6	Other	150	100	100	100	100	345,000	2,300	3	0
District Totals	C	FH Enhancement		1	Site rehab	5	5	5	5	5	10,000	2,000	2	0
District Totals	C	FH Enhancement		2	Spacing	0	0	0	0	0	0	0	0	0

District Totals	C	FH Enhancement	3	Pruning	100	180	180	140	100	61,600	616	2	0
District Totals	C	FH Enhancement	4	Studies	0	0	0	0	0	0	0	0	0
District Totals	C	FH Enhancement	5	Others	0	0	0	0	0	0	0	0	0
District Totals	D	FH Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	0	0	0
District Totals	D	FH Maintenance	2	Aerial Surveys (hours flying	10	10	10	10	10	10,000	1,000	2	0
District Totals	D	FH Maintenance	3	Fall & burn treatment (trees	0	0	0	0	0	0	0	0	0
District Totals	D	FH Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	0	0
District Totals	D	FH Maintenance	5	Pheromone baiting (trees)	100	100	100	100	100	3,000	30	2	0
District Totals	D	FH Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	0	0
District Totals	D	FH Maintenance	7	Studies (number)	0	0	0	0	0	0	0	0	0
District Totals	D	FH Maintenance	8	Other	0	0	0	0	0	0	0	0	0
District Totals	E	Current Fire/Pest	1	Planning/surveys/presc.	8	8	8	8	8	1,200	150	3	0
District Totals	E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	0	0	0
District Totals	E	Current Fire/Pest	3	Planting	8	8	8	8	8	12,000	1,500	3	0
District Totals	E	Current Fire/Pest	4	Brushing	2	2	2	2	2	2,400	1,199	3	0
District Totals	E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	0	0
District Totals	E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	0	0
District Totals	E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	0	0
District Totals	F	Habitat Supply	1	Planning/surveys/presc.	240	240	240	240	240	28,000	117	3	0
District Totals	F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	0	0
District Totals	F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	0	0
District Totals	F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	0	0
District Totals	F	Habitat Supply	5	Spacing	20	20	20	20	20	26,000	1,300	3	0
District Totals	F	Habitat Supply	6	Pruning	5	5	5	5	5	10,000	2,000	3	0
District Totals	F	Habitat Supply	7	Studies	0	0	0	0	0	0	0	0	0
District Totals	F	Habitat Supply	8	Others	0	0	0	0	0	0	0	0	0
District Totals	G	Incremental Reforestation			0	0	0	0	0	0	0	0	0

TFL 47; Port McNeill Forest District
Table A: Backlog Activities
August 7,1999

Legal Obligations

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	9
2	Site preparation	0	0	0	0	0	$0	0	9
3	Planting	0	0	0	0	0	$0	0	9
4	Brushing	0	0	0	0	0	$0	0	9
5	Seed purchase	0	0	0	0	0	$0	0	9
6	Max. density spacing	0	0	0	0	0	$0	0	9
7	Pruning	0	0	0	0	0	$0	0	9
	Totals	0	0	0	0	0	0	#DIV/0!	

Backlog Reforestation

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	100	100	0	0	0	$4,000	$40	2
2	Site preparation	0	5	5	0	0	$0	1,200	3
3	Site restoration road/land. rehab	0	0	0	0	0	$0	0	9
4	Planting	0	5	5	0	0	$0	1,000	3
5	Brushing	0	5	5	5	5	$0	800	3
6	Seed purchase	5	5	0	0	0	$350	70	3
	Totals	105	120	15	5	5	$4,350	$41	

Impeded areas

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	900	900	1000	1000	0	$36,000	$40	2
2	Site preparation	0	0	0	0	0	$0	0	9
3	Planting	0	0	0	0	0	$0	0	9
4	Brushing	10	10	10	10	10	$15,000	1,500	2
5	Seed purchase	0	0	0	0	0	$0	0	9
	Totals	910	910	1010	1010	10	$51,000	$56	

Backlog Activities - Management Unit Total

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	1000	1000	1000	1000	0	$40,000	$40	
2	Site preparation	0	5	5	0	0	0	#DIV/0!	
3	Site restoration road/land. rehab	0	0	0	0	0	0	#DIV/0!	
4	Planting	0	5	5	0	0	0	#DIV/0!	
5	Brushing	10	15	15	15	15	15,000	1,500	
6	Seed purchase	5	5	0	0	0	350	70	
7	Max. density spacing	0	0	0	0	0	0	#DIV/0!	
8	Pruning	0	0	0	0	0	0	#DIV/0!	
9	Studies		1	1	1	1	4,000	#DIV/0!	3
	Totals	1015	1031	1026	1016	16	$59,350	$58	

TFL 47; Port McNeill Forest District
Table B: Stand Tending Activities
August 7,1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	200	120	120	120	160	$12,000	$60	2
2	Spacing	90	60	60	60	80	$162,000	1,800	3
3	Pruning	0	0	0	0	0	$0	0	9
4	Fertilizing	0	0	0	100	100	$0	250	3
5	Studies	1	1	1	1	0	$8,000	8,000	3
6	Other	35	35	35	35	35	$70,000	2,000	3
	Totals	326	216	216	316	375	252000	$773	

TFL 47; Port McNeill Forest District
Table C: Forest Health Enhancement Activities
August 7,1999

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Site rehab	0	0	0	0	0	$0	$0	9
2 Spacing	0	0	0	0	0	$0	0	9
3 Pruning	0	0	0	0	0	$0	0	9
4 Studies	0	0	0	0	0	$0	0	9
5 Others	0	0	0	0	0	$0	0	9
Totals	0	0	0	0	0	$0	#DIV/0!	

TFL 47; Port McNeill Forest District
Table D: Forest Health Maintenance Activities
August 7,1999

Activities	Units	Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Ground Surveys	ha	0	0	0	0	0	$0	$0	9
2 Aerial Surveys	flying time	1	1	1	1	1	$1,000	1,000	1
3 Fall and burn treatment	trees	0	0	0	0	0	$0	0	9
4 MSMA treatment	trees	0	0	0	0	0	$0	0	9
5 Pheromone baiting	trees	0	0	0	0	0	$0	0	9
6 Defoliator spraying	ha	0	0	0	0	0	$0	0	9
7 Studies	number	0	0	0	0	0	$0	0	9
8 Other		0	0	0	0	0	$0	0	9
Totals		1	1	1	1	1	$1,000	$1,000	

TFL 47; Port McNeill Forest District
Table E: Current Fire and Pest Activities
August 7,1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	2	2	2	2	2	$300	$150	1
2	Site preparation	0	0	0	0	0	$0	0	9
3	Planting	2	2	2	2	2	$3,000	1,500	1
4	Brushing	0	0	0	0	0	$0	0	9
5	Max. density spacing	0	0	0	0	0	$0	0	9
6	Studies	0	0	0	0	0	$0	0	9
7	Other	0	0	0	0	0	$0	0	9
	Totals	$4	$4	$4	$4	$4	$3,300	$825	

6/22/2005

TFL 47; Port McNeill Forest District
Table F: Habitat Supply Activities
August 7,1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	200	200	200	0	0	$16,000	$80	1
2 Site preparation	0	0	0	0	0	$0	0	9
3 Planting	0	0	0	0	0	$0	0	9
4 Brushing	0	0	0	0	0	$0	0	9
5 Spacing	0	20	20	20	20	$0	1,800	3
6 Pruning	0	5	5	5	5	$0	1,500	3
7 Studies	0	1	1	1	0	$0	8,000	3
8 Others	0	0	0	0	0	$0	0	9
Totals	200	226	226	26	25	$16,000	$80	

TFL 47; Port McNeill Forest District
Summary Table
August 7,1999

Table Totals	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	1,015	1,031	1,026	1,016	16	59,350	58	
Table B: Stand Tending Activities	326	216	216	316	375	252,000	773	
Table C: Forest Health Enhancement Activities	0	0	0	0	0	0	#DIV/0!	
Table D: Forest Health Maintenance Activities	1	1	1	1	1	1,000	1,000	
Table E: Current Fire and Pest Activities	4	4	4	4	4	3,300	825	
Table F: Habitat Supply Activities	200	226	226	26	25	16,000	80	
Totals of all tables	1,546	1,478	1,473	1,363	421	331,650	215	

Activities Sorted by Priority (Ctl-e)

Table and category	Activity	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
		2000/2001	2001/2002	2002/2003	2003/2004	2004/2005	Funding ($000)	Unit Cost ($)	Man Unit Priority
A Backlog Legal	1 Planning/surveys/presc	0	0	0	0	0	0	0	9
A Backlog Legal	2 Site preparation	0	0	0	0	0	0	0	9
A Backlog Legal	3 Planting	0	0	0	0	0	0	0	9
A Backlog Legal	4 Brushing	0	0	0	0	0	0	0	9
A Backlog Legal	5 Seed Purchase	0	0	0	0	0	0	0	9
A Backlog Legal	6 Max. density spacing	0	0	0	0	0	0	0	9
A Backlog Legal	7 Pruning	0	0	0	0	0	0	0	9
A Backlog Backlog	1 Planning/surveys/presc	100	100	0	0	0	4,000	40	2
A Backlog Backlog	2 Site preparation	0	5	5	0	0	0	1,200	3
A Backlog Backlog	3 Site Restoration Road/land	0	0	0	0	0	0	0	9
A Backlog Backlog	4 Planting	0	5	5	0	0	0	1,000	3
A Backlog Backlog	5 Brushing	0	5	5	5	5	0	800	3
A Backlog Backlog	6 Seed Purchase	5	5	0	0	0	350	70	3
A Backlog Impeded	1 Planning/surveys/presc	900	900	1,000	1,000	0	36,000	40	2
A Backlog Impeded	2 Site preparation	0	0	0	0	0	0	0	9
A Backlog Impeded	3 Planting	0	0	0	0	0	0	0	9
A Backlog Impeded	4 Brushing	10	10	10	10	10	15,000	1,500	2
A Backlog Impeded	5 Seed Purchase	0	0	0	0	0	0	0	9
A Backlog Total	7 Studies	0	1	1	1	1	4,000	#DIV/0!	3
B Stand Tending	1 Planning/surveys/presc	200	120	120	120	160	12,000	60	2
B Stand Tending	2 Spacing	90	60	60	60	80	162,000	1,800	3
B Stand Tending	3 Pruning	0	0	0	0	0	0	0	9
B Stand Tending	4 Fertilizing	0	0	0	100	100	0	250	3
B Stand Tending	5 Studies	1	1	1	1	0	8,000	8,000	3
B Stand Tending	6 Other	35	35	35	35	35	70,000	2,000	3
C F. H. Enhancement	1 Site rehab	0	0	0	0	0	0	0	9
C F. H. Enhancement	2 Spacing	0	0	0	0	0	0	0	9
C F. H. Enhancement	3 Pruning	0	0	0	0	0	0	0	9
C F. H. Enhancement	4 Studies	0	0	0	0	0	0	0	9
C F. H. Enhancement	5 Others	0	0	0	0	0	0	0	9
D F. H. Maintenance	1 Ground Surveys (ha)	0	0	0	0	0	0	0	9
D F. H. Maintenance	2 Aerial Surveys (hours flying)	1	1	1	1	1	1,000	1,000	1
D F. H. Maintenance	3 Fall & burn treatment (trees)	0	0	0	0	0	0	0	9
D F. H. Maintenance	4 MSMA treatment (trees)	0	0	0	0	0	0	0	9
D F. H. Maintenance	5 Pheromone baiting (trees)	0	0	0	0	0	0	0	9
D F. H. Maintenance	6 Defoliator spraying (ha)	0	0	0	0	0	0	0	9
D F. H. Maintenance	7 Studies (number)	0	0	0	0	0	0	0	9
D F. H. Maintenance	8 Other	0	0	0	0	0	0	0	9
E Current Fire/Pest	1 Planning/surveys/presc	2	2	2	2	2	300	150	1
E Current Fire/Pest	2 Site preparation	0	0	0	0	0	0	0	9
E Current Fire/Pest	3 Planting	2	2	2	2	2	3,000	1,500	1
E Current Fire/Pest	4 Brushing	0	0	0	0	0	0	0	9
E Current Fire/Pest	5 Max. density spacing	0	0	0	0	0	0	0	9
E Current Fire/Pest	6 Studies	0	0	0	0	0	0	0	9
E Current Fire/Pest	7 Other	0	0	0	0	0	0	0	9
F Habitat Supply	1 Planning/surveys/presc.	200	200	200	0	0	16,000	80	1
F Habitat Supply	2 Site preparation	0	0	0	0	0	0	0	9
F Habitat Supply	3 Planting	0	0	0	0	0	0	0	9
F Habitat Supply	4 Brushing	0	0	0	0	0	0	0	9
F Habitat Supply	5 Spacing	0	20	20	20	20	0	1,800	3
F Habitat Supply	6 Pruning	0	5	5	5	5	0	1,500	3
F Habitat Supply	7 Studies	0	1	1	1	0	0	8,000	3
F Habitat Supply	8 Others	0	0	0	0	0	0	0	9
								Check totals	
Totals		1,546	1,478	1,473	1,363	421	331,650	#DIV/0!	345

TFL 6, Western Forest Products
Table A: Backlog Activities
36383

Legal Obligations

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2	Site preparation	0	0	0	0	0	$0	0	0
3	Planting	0	0	0	0	0	$0	0	0
4	Brushing	0	0	0	0	0	$0	0	0
5	Seed purchase	0	0	0	0	0	$0	0	0
6	Max. density spacing	0	0	0	0	0	$0	0	0
7	Pruning	0	0	0	0	0	$0	0	0
	Totals	0	0	0	0	0	0	#DIV/0!	

Backlog Reforestation

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2	Site preparation	0	0	0	0	0	$0	0	0
3	Site restoration road/land. rehab	0	0	0	0	0	$0	0	0
4	Planting	0	0	0	0	0	$0	0	0
5	Brushing	0	0	0	0	0	$0	0	0
6	Seed purchase	0	0	0	0	0	$0	0	0
	Totals	0	0	0	0	0	$0	#DIV/0!	

Impeded areas

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	912	500	250	250	250	$46,512	$51	1
2	Site preparation	0	0	0	0	0	$0	0	0
3	Planting	11	10	0	0	0	$9,900	900	1
4	Brushing	544	500	250	250	250	$326,400	600	1
5	Seed purchase	0	0	0	0	0	$0	0	0
	Totals	1467	1010	500	500	500	$382,812	$261	

Backlog Activities - Management Unit Total

		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	912	500	250	250	250	$46,512	$51	
2	Site preparation	0	0	0	0	0	0	#DIV/0!	
3	Site restoration road/land. rehab	0	0	0	0	0	0	#DIV/0!	
4	Planting	11	10	0	0	0	9,900	900	
5	Brushing	544	500	250	250	250	326,400	600	
6	Seed purchase	0	0	0	0	0	0	#DIV/0!	
7	Max. density spacing	0	0	0	0	0	0	#DIV/0!	
8	Pruning	0	0	0	0	0	0	#DIV/0!	
9	Studies	0	0	0	0	0	0	0	0
	Totals	1467	1010	500	500	500	$382,812	$261	

TFL 6, Western Forest Products
Table B: Stand Tending Activities
36383

	Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	520	2220	2220	2220	2220	$65,000	$125	1
2	Spacing	109	350	350	350	350	$277,950	2,550	3
3	Pruning	116	350	350	350	350	$295,800	2,550	3
4	Fertilizing	1214	1500	1500	1500	1500	$546,300	450	1
5	Studies	0	0	0	0	0	$0	0	0
6	Other	20	20	20	20	20	$40,000	2,000	3
	Totals	1979	4440	4440	4440	4440	1225050	$619	

TFL 6, Western Forest Products
Table C: Forest Health Enhancement Activities
36383

	Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Site rehab	0	0	0	0	0	$0	$0	0
2	Spacing	0	0	0	0	0	$0	0	0
3	Pruning	0	0	0	0	0	$0	0	0
4	Studies	0	0	0	0	0	$0	0	0
5	Others	0	0	0	0	0	$0	0	0
	Totals	0	0	0	0	0	$0	#DIV/0!	

TFL 6, Western Forest Products
Table D: Forest Health Maintenance Activities
36383

	Activities	Units	Five-year Plan Goals (ha)					Annual Plan 2000/01		
			2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Ground Surveys	ha	0	0	0	0	0	$0	$0	0
2	Aerial Surveys	hours of flying time	0	0	0	0	0	$0	0	0
3	Fall and burn treatment	trees	0	0	0	0	0	$0	0	0
4	MSMA treatment	trees	0	0	0	0	0	$0	0	0
5	Pheromone baiting	trees	0	0	0	0	0	$0	0	0
6	Defoliator spraying	ha	0	0	0	0	0	$0	0	0
7	Studies	number	0	0	0	0	0	$0	0	0
8	Other		0	0	0	0	0	$0	0	0
	Totals		0	0	0	0	0	$0	#DIV/0!	

TFL 6, Western Forest Products
Table E: Current Fire and Pest Activities
36383

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2 Site preparation	0	0	0	0	0	$0	0	0
3 Planting	0	0	0	0	0	$0	0	0
4 Brushing	0	0	0	0	0	$0	0	0
5 Max. density spacing	0	0	0	0	0	$0	0	0
6 Studies	0	0	0	0	0	$0	0	0
7 Other	0	0	0	0	0	$0	0	0
Totals	$0	$0	$0	$0	$0	$0	#DIV/0!	

TFL 6, Western Forest Products
Table F: Habitat Supply Activities
36383

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	40	0	0	0	0	$6,000	$150	1
2 Site preparation	0	0	0	0	0	$0	0	0
3 Planting	0	0	0	0	0	$0	0	0
4 Brushing	0	0	0	0	0	$0	0	0
5 Spacing	0	40	0	0	0	$0	2,550	3
6 Pruning	0	0	0	0	0	$0	0	0
7 Studies	0	0	0	0	0	$0	0	0
8 Others	0	0	0	0	0	$0	0	0
Totals	40	40	0	0	0	$6,000	$150	

TFL 6, Western Forest Products
Summary Table
36383

	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
Table Totals	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	1,467	1,010	500	500	500	382,812	261	
Table B: Stand Tending Activities	1,979	4,440	4,440	4,440	4,440	1,225,050	619	
Table C: Forest Health Enhancement Activities	0	0	0	0	0	0	#DIV/0!	
Table D: Forest Health Maintenance Activities	0	0	0	0	0	0	#DIV/0!	
Table E: Current Fire and Pest Activities	0	0	0	0	0	0	#DIV/0!	
Table F: Habitat Supply Activities	40	40	0	0	0	6,000	150	
Totals of all tables	3,486	5,490	4,940	4,940	4,940	1,613,862	463	

Activities Sorted by Priority (Ctl-e)

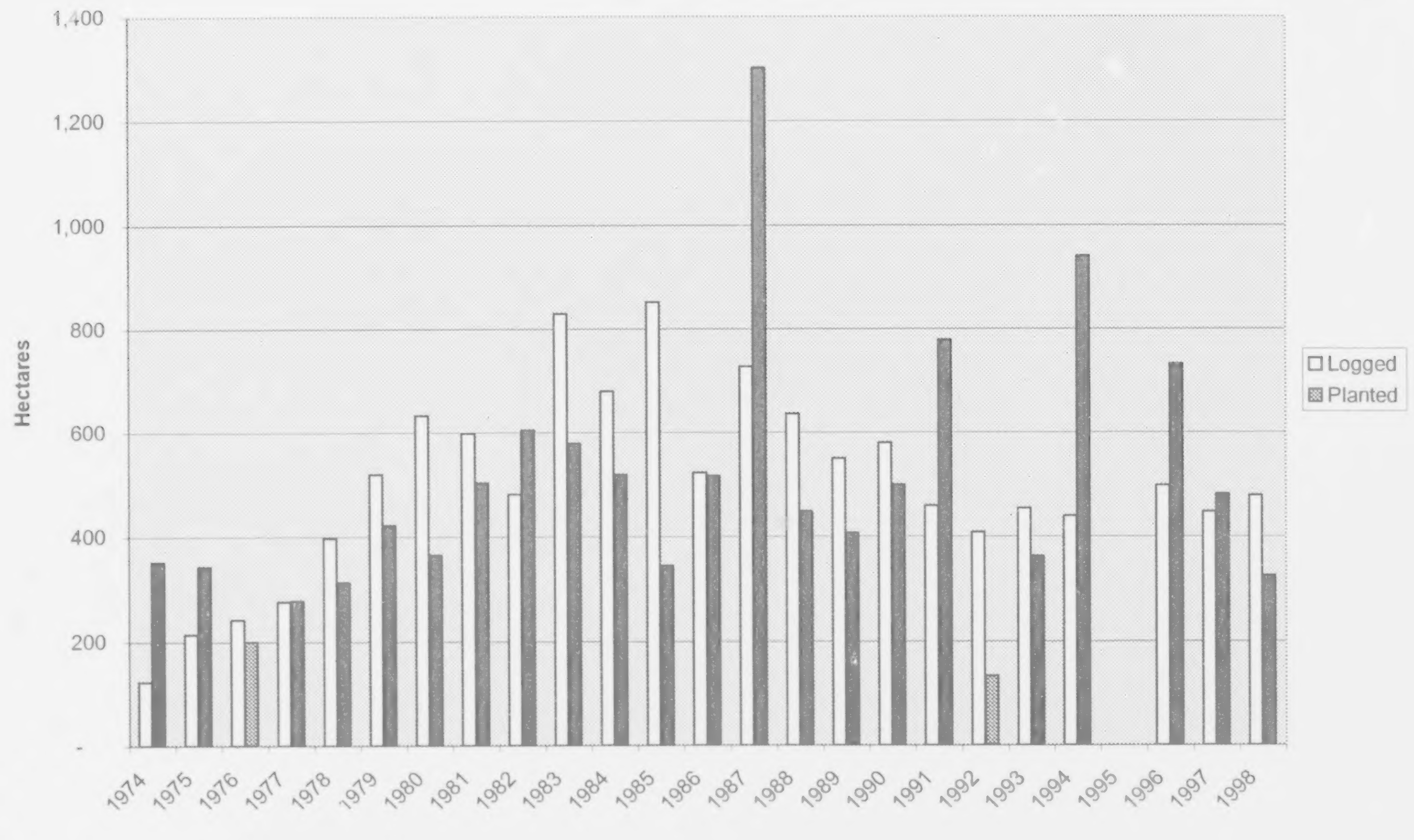
					Five-Year Plan Goals (ha)					Annual Plan 2000/01		
Table and category			**Activity**		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority
A	Backlog	Legal	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
A	Backlog	Legal	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog	Legal	3	Planting	0	0	0	0	0	0	0	0
A	Backlog	Legal	4	Brushing	0	0	0	0	0	0	0	0
A	Backlog	Legal	5	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog	Legal	6	Max. density spacing	0	0	0	0	0	0	0	0
A	Backlog	Legal	7	Pruning	0	0	0	0	0	0	0	0
A	Backlog	Backlog	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
A	Backlog	Backlog	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog	Backlog	3	Site Restoration Road/land.	0	0	0	0	0	0	0	0
A	Backlog	Backlog	4	Planting	0	0	0	0	0	0	0	0
A	Backlog	Backlog	5	Brushing	0	0	0	0	0	0	0	0
A	Backlog	Backlog	6	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog	Impeded	1	Planning/surveys/presc.	912	500	250	250	250	46,512	51	1

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
A	Backlog Impeded	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog Impeded	3	Planting	11	10	0	0	0	9,900	900	1
A	Backlog Impeded	4	Brushing	544	500	250	250	250	326,400	600	1
A	Backlog Impeded	5	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog Total	7	Studies	0	0	0	0	0	0	0	0
B	Stand Tending	1	Planning/surveys/presc.	520	2,220	2,220	2,220	2,220	65,000	125	1
B	Stand Tending	2	Spacing	109	350	350	350	350	277,950	2,550	3
B	Stand Tending	3	Pruning	116	350	350	350	350	295,800	2,550	3
B	Stand Tending	4	Fertilizing	1,214	1,500	1,500	1,500	1,500	546,300	450	1
B	Stand Tending	5	Studies	0	0	0	0	0	0	0	0
B	Stand Tending	6	Other	20	20	20	20	20	40,000	2,000	3
C	F. H. Enhancement	1	Site rehab	0	0	0	0	0	0	0	0
C	F. H. Enhancement	2	Spacing	0	0	0	0	0	0	0	0
C	F. H. Enhancement	3	Pruning	0	0	0	0	0	0	0	0
C	F. H. Enhancement	4	Studies	0	0	0	0	0	0	0	0
C	F. H. Enhancement	5	Others	0	0	0	0	0	0	0	0
D	F. H. Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	2	Aerial Surveys (hours flying)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	3	Fall & burn treatment (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	5	Pheromone baiting (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	8	Other	0	0	0	0	0	0	0	0
E	Current Fire/Pest	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	0	0
E	Current Fire/Pest	3	Planting	0	0	0	0	0	0	0	0
E	Current Fire/Pest	4	Brushing	0	0	0	0	0	0	0	0
E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	0
E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	0
E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	0
F	Habitat Supply	1	Planning/surveys/presc.	40	0	0	0	0	6,000	150	1
F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	0
F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	0
F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	0

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
F	Habitat Supply	5	Spacing	0	40	0	0	0	0	2,550	3
F	Habitat Supply	6	Pruning	0	0	0	0	0	0	0	0
F	Habitat Supply	7	Studies	0	0	0	0	0	0	0	0
F	Habitat Supply	8	Others	0	0	0	0	0	0	0	0
										Check totals:	
Totals				3,486	5,490	4,940	4,940	4,940	1,613,862	11,926	18

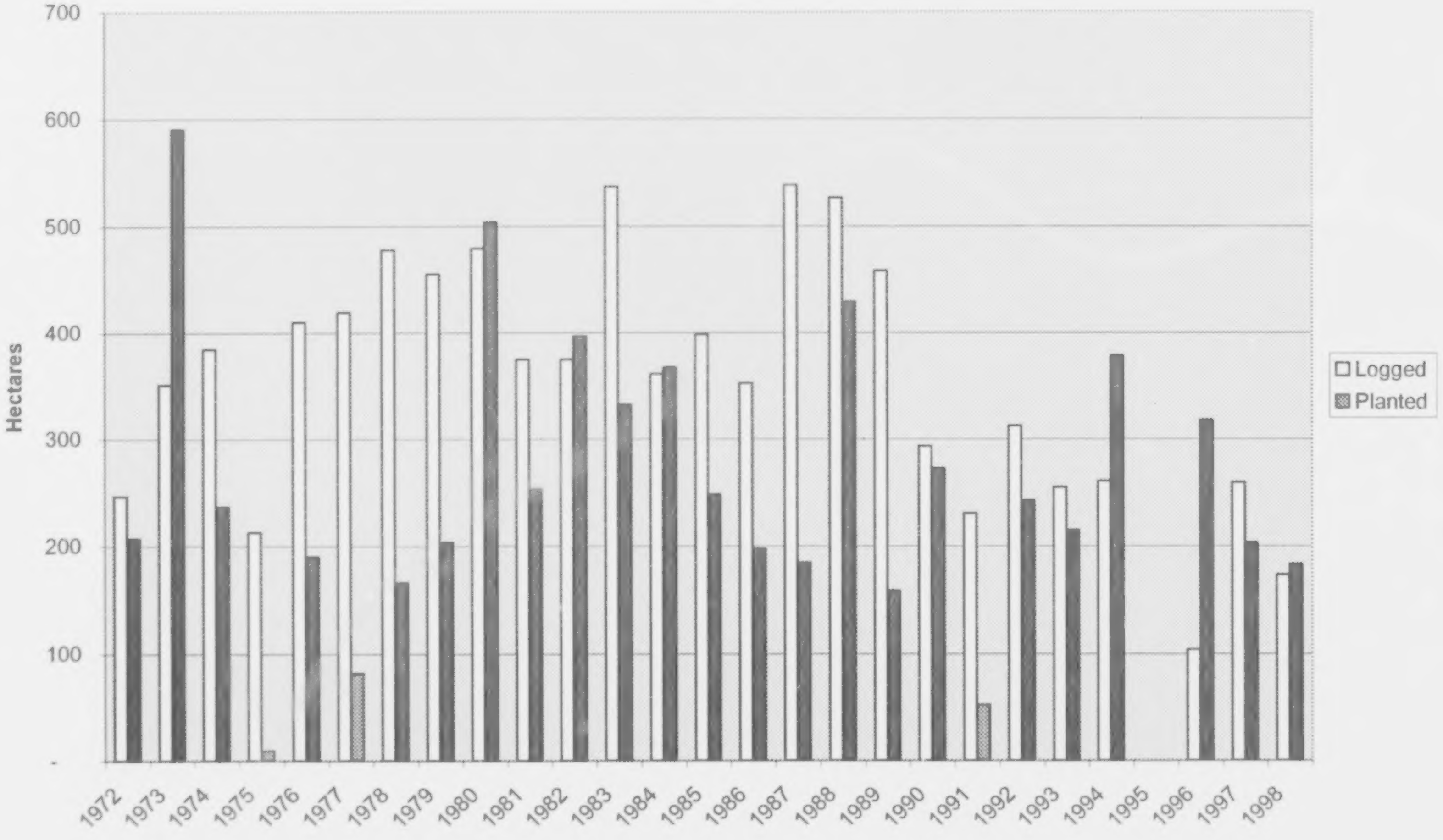


Hectares Logged and Planted 1974 - 1998
TFL 47 Johnstone Strait Management Unit

Silviculture History
1974 - 1998
Johnstone Straits Management Unit, TFL 47

Block	Year	Logged	Planted	Fert	Juvenile Spacing	Pruning	Fires	Site Prep	Weed Species Control
1-12	1974	123	352		19				
1-12	1975	213	342		37				
1-12	1976	242	200		25		-	74	64
1-12	1977	276	278		-		-		
1-12	1978	397	313		57		0		81
1-12	1979	519	421		29				15
1-12	1980	632	365		-			344	27
1-12	1981	598	502		-		0	167	-
1-12	1982	481	604		454		0	126	-
1-12	1983	830	578		203		0	-	243
1-12	1984	679	518		235		-	527	
1-12	1985	851	344		-		0	-	971
1-12	1986	522	516	-	99		-		1,133
1-12	1987	727	1,302		-	13	2		823
1-12	1988	635	448	-	62	-	3	-	953
1-12	1989	549	407	-	85	-	0		594
1-12	1990	580	499	-	104	-	3		433
1-12	1991	459	779		16	-	-		609
1-12	1992	408	134		526	-	0		387
1-12	1993	454	362	560	268	-	0		1,614
1-12	1994	439	940		446	-			1,123
1-12	1995								
1-12	1996	498	732	-	302	-	-		616
1-12	1997	447	481	-	268	-	-		443
1-12	1998	478	325	-	93	-	-	5	657
TOTAL		12,036	11,742	560	3,329	13	8	1,242	10,785
AVERAGE		501.5	489.2	70.0	138.7	1.2	0.4	138.0	539.3

Hectares Logged and Planted 1972 - 1998
TFL 47 Bonanza Lake Management Unit



Silviculture History

1972 - 1998

Bonanza Lake Management Unit, TFL 47

Block	Year	Logged	Planted	Fert	Juvenile Spacing	Pruning	fires	Site Prep	Weed Species Control
17	1972	246	207					-	
17	1973	351	590		15			11	1
17	1974	384	237		-				
17	1975	213	9		58				
17	1976	410	190		206				
17	1977	419	82		152				10
17	1978	478	166		253				
17	1979	455	204		331				26
17	1980	479	504		353			-	-
17	1981	375	253		316			-	-
17	1982	375	397		280		0	-	-
17	1983	537	332		128			297	-
17	1984	361	368		-		-	209	
17	1985	398	248		100		-	6	-
17	1986	352	197	-	86		-		87
17	1987	538	184		268		-		-
17	1988	526	429	-	41	-	-	57	-
17	1989	458	159	-	390	-	7		-
17	1990	293	272	-	250	-	-		-
17	1991	230	52		119	-	-		-
17	1992	312	242		43	-			-
17	1993	254	215		70	-			-
17	1994	260	378		276	6	0		-
17	1995								
17	1996	104	318	-	247	10	11		-
17	1997	259	203	-	128	5	-		2
17	1998	173	183	-	-	-	24	2	-
AVERAGE		367	259.6	-	173.0	2.0	1.7	64.5	6.9

IFP,TFL 54,South Island District
Table A: Backlog Activities
August17,1999

Legal Obligations	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2 Site preparation	0	0	0	0	0	$0	0	0
3 Planting	0	0	0	0	0	$0	0	0
4 Brushing	0	0	0	0	0	$0	0	0
5 Seed purchase	0	0	0	0	0	$0	0	0
6 Max. density spacing	0	0	0	0	0	$0	0	0
7 Pruning	0	0	0	0	0	$0	0	0
Totals	0	0	0	0	0	0	#DIV/0!	

Backlog Reforestation

	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	70	65	20	0	0	$4,200	$60	1
2 Site preparation	0	0	0	0	0	$0	0	0
3 Site restoration road/land. rehab	0	0	0	0	0	$0	0	0
4 Planting	45	10	10	0	0	$90,000	2,000	1
5 Brushing	0	0	0	0	0	$0	0	2
6 Seed purchase	0	0	0	0	0	$0	0	0
Totals	115	75	30	0	0	$94,200	$819	

Impeded areas

	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	260	260	180	150	100	$15,600	$60	0
2 Site preparation	0	0	0	0	0	$0	0	0
3 Planting	0	0	0	0	0	$0	0	0
4 Brushing	40	40	40	0	0	$48,000	1,200	0
5 Seed purchase	0	0	0	0	0	$0	0	0
Totals	300	300	220	150	100	$63,600	$212	

Backlog Activities - Management Unit Total

	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	330	325	200	150	100	$19,800	$60	
2 Site preparation	0	0	0	0	0	0	#DIV/0!	
3 Site restoration road/land. rehab	0	0	0	0	0	0	#DIV/0!	
4 Planting	45	10	10	0	0	90,000	2,000	
5 Brushing	40	40	40	0	0	48,000	1,200	
6 Seed purchase	0	0	0	0	0	0	#DIV/0!	
7 Max. density spacing	0	0	0	0	0	0	#DIV/0!	
8 Pruning	0	0	0	0	0	0	#DIV/0!	
9 Studies	0	0	0	0	0	0	0	0
Totals	415	375	250	150	100	$157,800	$380	

IFP,TFL 54,South Island District
Table B: Stand Tending Activities
August17,1999

		Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Planning/surveys/prescriptions	40	40	20	15	0	$4,000	$100	3
2	Spacing	40	40	10	10	0	$104,000	2,600	3
3	Pruning	0	0	0	0	0	$0	0	0
4	Fertilizing	0	0	0	0	0	$0	0	0
5	Studies	0	0	0	0	0	$0	0	0
6	Other	0	0	0	0	0	$0	0	0
	Totals	80	80	30	25	0	108000	$1,350	

IFP,TFL 54,South Island District
Table C: Forest Health Enhancement Activities
August17,1999

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Site rehab	0	0	0	0	0	$0	$0	0
2 Spacing	0	0	0	0	0	$0	0	0
3 Pruning	0	0	0	0	0	$0	0	0
4 Studies	0	0	0	0	0	$0	0	0
5 Others	0	0	0	0	0	$0	0	0
Totals	0	0	0	0	0	$0	#DIV/0!	

IFP,TFL 54,South Island District
Table D: Forest Health Maintenance Activities
August17,1999

	Activities	Units	Five-year Plan Goals (ha)					Annual Plan 2000/01		
			2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Ground Surveys	ha	0	0	0	0	0	$0	$0	0
2	Aerial Surveys	hours of flying time	0	0	0	0	0	$0	0	0
3	Fall and burn treatment	trees	0	0	0	0	0	$0	0	0
4	MSMA treatment	trees	0	0	0	0	0	$0	0	0
5	Pheromone baiting	trees	0	0	0	0	0	$0	0	0
6	Defoliator spraying	ha	0	0	0	0	0	$0	0	0
7	Studies	number	0	0	0	0	0	$0	0	0
8	Other		0	0	0	0	0	$0	0	0
	Totals		0	0	0	0	0	$0	#DIV/0!	

IFP,TFL 54,South Island District
Table E: Current Fire and Pest Activities
August17,1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2 Site preparation	0	0	0	0	0	$0	0	0
3 Planting	0	0	0	0	0	$0	0	0
4 Brushing	0	0	0	0	0	$0	0	0
5 Max. density spacing	0	0	0	0	0	$0	0	0
6 Studies	0	0	0	0	0	$0	0	0
7 Other	0	0	0	0	0	$0	0	0
Totals	$0	$0	$0	$0	$0	$0	#DIV/0!	

IFP,TFL 54,South Island District
Table F: Habitat Supply Activities
August17,1999

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2 Site preparation	0	0	0	0	0	$0	0	0
3 Planting	0	0	0	0	0	$0	0	0
4 Brushing	0	0	0	0	0	$0	0	0
5 Spacing	0	0	0	0	0	$0	0	0
6 Pruning	0	0	0	0	0	$0	0	0
7 Studies	0	0	0	0	0	$0	0	0
8 Others	0	0	0	0	0	$0	0	0
Totals	0	0	0	0	0	$0	#DIV/0!	

IFP,TFL 54,South Island District
Summary Table
August17,1999

Table Totals	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Average Unit Cost ($)	Priority
Table A: Backlog Activities	415	375	250	150	100	157,800	380	
Table B: Stand Tending Activities	80	80	30	25	0	108,000	1,350	
Table C: Forest Health Enhancement Activities	0	0	0	0	0	0	#DIV/0!	
Table D: Forest Health Maintenance Activities	0	0	0	0	0	0	#DIV/0!	
Table E: Current Fire and Pest Activities	0	0	0	0	0	0	#DIV/0!	
Table F: Habitat Supply Activities	0	0	0	0	0	0	#DIV/0!	
Totals of all tables	495	455	280	175	100	265,800	537	

Activities Sorted by Priority (Ctl-e)

Table and category			Activity		Five-Year Plan Goals (ha)					Annual Plan 2000/01		
					2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority
A	Backlog	Legal	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
A	Backlog	Legal	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog	Legal	3	Planting	0	0	0	0	0	0	0	0
A	Backlog	Legal	4	Brushing	0	0	0	0	0	0	0	0
A	Backlog	Legal	5	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog	Legal	6	Max. density spacing	0	0	0	0	0	0	0	0
A	Backlog	Legal	7	Pruning	0	0	0	0	0	0	0	0
A	Backlog	Backlog	1	Planning/surveys/presc.	70	65	20	0	0	4,200	60	1
A	Backlog	Backlog	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog	Backlog	3	Site Restoration Road/land	0	0	0	0	0	0	0	0
A	Backlog	Backlog	4	Planting	45	10	10	0	0	90,000	2,000	1
A	Backlog	Backlog	5	Brushing	0	0	0	0	0	0	0	2
A	Backlog	Backlog	6	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog	Impeded	1	Planning/surveys/presc.	260	260	180	150	100	15,600	60	0
A	Backlog	Impeded	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog	Impeded	3	Planting	0	0	0	0	0	0	0	0
A	Backlog	Impeded	4	Brushing	40	40	40	0	0	48,000	1,200	0
A	Backlog	Impeded	5	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog	Total	7	Studies	0	0	0	0	0	0	0	0

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Average Unit Cost ($)	Priority
B	Stand Tending	1	Planning/surveys/presc.	40	40	20	15	0	4,000	100	3
B	Stand Tending	2	Spacing	40	40	10	10	0	104,000	2,600	3
B	Stand Tending	3	Pruning	0	0	0	0	0	0	0	0
B	Stand Tending	4	Fertilizing	0	0	0	0	0	0	0	0
B	Stand Tending	5	Studies	0	0	0	0	0	0	0	0
B	Stand Tending	6	Other	0	0	0	0	0	0	0	0
C	F. H. Enhancement	1	Site rehab	0	0	0	0	0	0	0	0
C	F. H. Enhancement	2	Spacing	0	0	0	0	0	0	0	0
C	F. H. Enhancement	3	Pruning	0	0	0	0	0	0	0	0
C	F. H. Enhancement	4	Studies	0	0	0	0	0	0	0	0
C	F. H. Enhancement	5	Others	0	0	0	0	0	0	0	0
D	F. H. Maintenance	1	Ground Surveys (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	2	Aerial Surveys (hours flying	0	0	0	0	0	0	0	0
D	F. H. Maintenance	3	Fall & burn treatment (trees	0	0	0	0	0	0	0	0
D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	5	Pheromone baiting (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	8	Other	0	0	0	0	0	0	0	0
E	Current Fire/Pest	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	0	0
E	Current Fire/Pest	3	Planting	0	0	0	0	0	0	0	0
E	Current Fire/Pest	4	Brushing	0	0	0	0	0	0	0	0
E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	0
E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	0
E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	0
F	Habitat Supply	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	0
F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	0
F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	0
F	Habitat Supply	5	Spacing	0	0	0	0	0	0	0	0
F	Habitat Supply	6	Pruning	0	0	0	0	0	0	0	0
F	Habitat Supply	7	Studies	0	0	0	0	0	0	0	0
F	Habitat Supply	8	Others	0	0	0	0	0	0	0	0
										Check totals:	
Totals				495	455	280	175	100	265,800	6,020	10

APPENDIX 17

TIMBER SUPPLY AREA PLANS

South Island Forest District
Chilliwack Forest District
Port McNeill Forest District
Mid Coast Forest District
Queen Charlotte Islands Forest District
Squamish Forest District
Sunshine Coast Forest District
Campbell River Forest District

September 30, 1999

INCREMENTAL SILVICULTURE STRATEGY

A COMPONENT OF THE SOUTH ISLAND
FOREST DISTRICT

2000
RESOURCE MANAGEMENT PLAN

(for program update refer to 2000 activity templates)

Arrowsmith
Timber Supply Area

Incremental Silviculture Strategy (Interim)

-- Version 1.1 --

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British Columbia

Ministry of Forests

Funded By

Forest Renewal BC

September 18, 1998

STRATEGY AT A GLANCE

Working Targets

Quantity: Maintain the current harvest level of 400 000 m3 in the short and mid terms, rising in 15 decades to a long term harvest level of 435 000 m3.

Quality: Maintain the proportion of premium logs at or above 8% of future harvest volumes.

Product Objectives

The following are definitions of premium logs and sawlogs in the Arrowsmith TSA.

Premium Log: 45 + cm DBH, pruned Douglas-fir. 200 + years, unpruned Douglas-fir.

Sawlog: (Former) Duncan district: age at which stand reaches 30 m height. (Former) Pt. Alberni district: E zone - min DBH of 25 cm and min vol/ha of 300 m3; W zone - 400 m3/ha; cable/heli zone - 600 m3/ha. Ages range from 45 yrs on good sites to 165 years on poor sites.

Major Silvicultural Strategies

Quantity

1. Implement more alternative silvicultural systems to overcome adjacency constraints.
2. Reduce green-up ages by 5 years by:
   - reducing time to regeneration;
   - using A class seed or better;
   - using large planting stock;
   - fertilizing regenerated stands where efficacy is proven.
3. Increase regenerated stand yields 25% by, in addition to the above program for reducing green-up ages:
   - practicing root rot management in Fdc to reduce the volume reduction from 16% to 5%; and
   - manage stocking to reduce voids to no more than 10% of regenerated stand area.
4. Commercial thin and fertilize older existing immature stands in VQ zones to increase yields of existing stands.

Quality

1. Prune all spaced stands. East zone: Douglas-fir 2 lifts; hemlock/cedar one lift. West zone: hemlock/cedar one lift.
2. Fertilize after 2nd lift prune.

Incremental Silviculture Program

Year	Surveys*	Backlog Brushing	Space	Prune	Fertilize
1	2,900	100	325	500	500
2	2,900	100	325	500	500
3	2,900	100	325	500	500
4	2,900	100	325	500	500
5	2,900	100	325	500	500
Subtot Yr 1 - 5	14,500	500	1,625	2,500	2,500
6 - 10	14,500	500	1,625	2,500	2,500
Total Yr 1 - 10	29,000	1,000	3,250	5,000	5,000

* Includes prescription and layout

Introduction

About the Interim Strategy

The terms of a service agreement between Forest Renewal BC (FRBC) and the BC Ministry of Forests (MoF) require the MoF to develop, and FRBC to fund, what is essentially an incremental silviculture strategy. This document is in fulfillment of this contractual requirement.

Incremental silviculture is part of a suite of strategies which together may influence the future quality and quantity of habitat and timber supply. This strategy document broadly analyzes the full potential range of silviculture activities in order to create a context for an incremental silviculture strategy.

An incremental silviculture strategy should not be confused with the allowable annual cut (AAC) determination process. AAC's are based on actual practice and current information at the time of the determination. This strategy, on the other hand, is about creating a future state of our forests. The degree to which the strategy proves appropriate and is achieved may influence future, but not necessarily present, AAC determinations.

This strategy is founded on readily available information and the knowledge of forestry professionals. It is intended as an interim strategy until a more in-depth analysis-based review is completed.

Methodology

This strategy was prepared through the following process:

1. Prior to the district working session, L. P. Atherton & Associates prepared a preliminary draft of this document, summarizing all available information relevant to a strategy and identifying opportunities to improve the future quantity and quality of timber supply.
2. A district working session was held June 18 & 19, 1998 in Port Alberni, attended by representatives of the MoF from Victoria headquarters, Vancouver Forest Region and South Island Forest District. Because this was a pilot project, no forest licensees were invited. Larry Atherton of L. P. Atherton & Associates and Doug Williams of Cortex Consultants Inc. led the session. Participants reviewed the potential opportunities identified in the draft document along with others that arose. The outcome of the session was a regime table, complete with priorities.
3. The consultants incorporated the results of the working session into the draft document and added forecasts of future harvest quantity and quality and of job outcomes.
4. After ministry review, the consultants submitted a completed strategy document to the MoF in electronic format as version 1.0. (The ministry will assign higher version numbers (e.g., 1.1, 1.2, etc.) as the strategy evolves and changes are made.)

Acknowledgments

The participation of representatives of the South Island Forest District at the district working session is gratefully acknowledged.

The project was managed by Mr. Larry Sigurdson of the Ministry of Forests, Vancouver Forest Region. Funding was provided by Forest Renewal BC.

DISTRICT SUMMARY

The Arrowsmith Timber Supply Area (TSA) is located within the southern half of Vancouver Island, within the Vancouver Forest Region. Many of the communities within the district are heavily dependent on the forest industry. While this strategy provides for immediate silviculture employment opportunities, the principle benefit of immediate implementation will be realized in future (20+ years) employment opportunities. Maintaining the current Annual Allowable Cut (AAC), and promoting timber quality for existing processing facilities and a value added industry are important factors in the strategy..

Most of the forested lands within the TSA lie within the Coastal Western Hemlock biogeoclimatic zone, with the bulk of the remainder in the Coastal Douglas-fir zone on the east side of Vancouver Island, and some Mountain Hemlock zone at higher elevations.

Harvesting activities were concentrated on the east coast areas in the 1930's-1950's, and within the west coast areas in the 1960's-present. Progressive clearcutting was practiced at the time. With the *Forest Practices Code of BC Act* (FPC) this harvesting history has created challenges for district staff. The east coast is dominated by 40-60 year old Coastal Douglas-fir, and very little old growth. Many of the stands are infected with *Phellinus weirii*, laminated root rot. The west coast areas contain much of the TSA's old growth stands. Under the FPC many of these stands will not be available for harvest for many decades.

Currently, the TSA is predicting significant mid and long term fall down (42% and 30 % respectively). In completing this forest management strategy, opportunities were identified to mitigate this fall down and provide for a modest increase over the long term. While the strategies presented here will not have an immediate impact, they are predicted to either soften the fall down and/or the impacts of the FPC and other constraints. Most of the opportunities are basic forest management strategies (i.e., non FRBC funded. However, a key incremental silviculture strategy, critical in mitigating the fall down, is forest fertilization. Additionally, spacing and pruning will promote better timber quality, allowing for more future value added opportunities.

BASIC FOREST MANAGEMENT STRATEGY:

The age class balance, by landscape unit, is a major factor in this strategy. West coast stands are limited by adjacency rules and green-up requirements. East coast stands are young, have not reached the culmination of Mean Annual Increment (MAI) and are impacted by laminated root rot. Additionally, 45% of the timber harvesting land base is within a VQO zone and is constrained by more onerous green up requirements.

1. **Adjacency**- the district has and will continue to implement alternative silviculture systems where appropriate. Cut blocks will be designed to have minimal impacts on the forested landscape. Commercial thinning of healthy stands and cutting of root rot infected stands will also help to begin the process of breaking up landscape level age class imbalances, reducing

infection levels and extending the rotation age of healthy stands while maintaining cover in the more constrained drainage's.

2. **Green-up**- Reduce the time to achieve green-up by 5 years by prompt planting with large stock, fertilize at the time of planting, use the best genetic stock available (A class seed or better), and an aggressive brushing and weeding program. To this end regeneration performance will be quantified, by licensee, at the time of TSA analysis. Currently, green-up ages are 12-15 years to reach 3 meters in the IRM zone and 15-20 years to reach 5 meters in the VQO zone.
3. **Root Disease OAF 2-** East coast stands currently have been modeled using an operational adjustment factor (OAF 2) of 16.9% due to laminated root rot. OAF 2 is a net down to the growth and yield of stands due to insects and diseases. Over time it nets down yield at an increasing rate (exponential). All licensees operating within this area of the TSA will be required to assess stands for root disease. Areas which are heavily infected and losing volume will be harvested. Areas infected but not currently losing volume will be monitored and harvesting scheduled when losses begin to occur. Stands not infected with root disease will be assessed for commercial thinning opportunities. Intent here is to break up the present age class structure, salvage potential mortality and extend the rotation age of healthy stands. It is expected that all stands will have been addressed over the next 10-20 years, and an OAF 2 of 5% will be more appropriate for the next TSA analysis.
4. **Reduce the OAF 1 by 5%-** OAF 1 is an operational adjustment factor used to estimate the net down in growth and yield due to unmappable swamps and rock. Unlike OAF 2 it is linear in its application of applying net downs. Ensure all available microsites are reforested by completing site preparation where required, and ensuring minimum horizontal inter tree distances are used around unplantable ground. Map and record all non-productive areas, suggested minimum size of 1 ha.

INCREMENTAL FOREST MANAGEMENT STRATEGY:

End product objectives are:

- To produce sawlogs of 45+ cm in diameter and maximum MAI.
- To provide for an opportunity for an interim harvest (commercial thinning) where operationally feasible, targeting an average stand diameter of 30 cm DBH and maximum MAI.
- To prescribe all treatments on a 70-80 year rotation for Coastal Douglas-fir, and 80-120 years for Coastal Western Hemlock and Western Red Cedar.
- Produce clear wood on Coastal Douglas-fir stands over a site index of 25 at 50 years, by pruning the best 300/ha to a height of 5.5 meters and the remainder to 3.0 meters. Stands are to be prioritized to keep the size of the knotty core below 10 cm DBH, and in no instances should pruning proceed when the average DBH of the prime 250/ha are greater than 20 cm DBH. Trees pruned to 3.0 meters will be removed during commercial thinning, while those pruned to 5.5 meters are left to final rotation.
- Produce clear wood on selected stands of Coastal Western Hemlock and Western Red Cedar to 3.0 meters. Stands that are easily accessible and have low treatment costs will be considered for pruning treatments to 5.5 meters.

Where biologically these objectives cannot be achieved, treatments are to be prescribed that achieve a 30+cm (larger is preferred) average stand diameter and maximum MAI within the stated time frames.

Incremental Silviculture Treatment Priorities:

1. Ensure all pre October 1, 1987 basic silviculture obligations are met.
2. Fertilize all Coastal Douglas-fir stands that have been commercially thinned, and other older stands. Fertilization can increase the potential wood supply 4-10% for a single application of Nitrogen (N) of 225 kg/ha. Omule (1990) found that in unthinned stands response was about 5% and about 7% for thinned stands with a single application rate of 225kg N/ha after 9 years. Response for thinned stands was 11% at a single application rate of 450 kg N/ha after 9 years, while the unthinned stand was the same (about 5%). These results are comparable with Carter and Scagel (1989), who concluded that cumulative height and volume growth continue to show a positive treatment effect 10 years after fertilization and thinning. Their results showed a marked trend: the lower density treatments (e.g., 750 and 500 stems/ha) had a larger and/or longer response due to fertilization.
3. Juvenile space and prune to 3.0/5.5 meters all Coastal Douglas-fir stands to meet above end product objectives.
4. Juvenile space all good and medium site Coastal Western Hemlock stands. Priority is for stands exceeding 4,000 stems/ha.
5. Prune spaced stands of Coastal Western Hemlock to 3.0 meters. Consideration to be given for a second lift prune to 5.5 meters where treatment costs are low.
6. Fertilize all Coastal Douglas-fir stands, SI 25-35 meters at age 50, that have been spaced and pruned.

Basic Data

After publication of the Analysis Report, the BCFS corrected errors and updated certain information. Few of the corrected data are available in published documents. Consequently, information below is noted as corrected or uncorrected, as available.

Land Area

Description	Area (ha)	Area %
Total Area of TSA	168 800	100
Total Productive Crown Forest	124 600	74
Net Timber Harv. Land Base	75 200	45

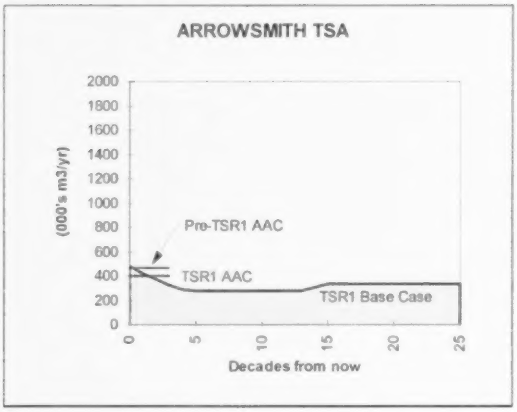
Uncorrected THLB - rounded to nearest 100 ha.

AAC

AAC Type	Pre-TSR	TSR1*	Change (%)
Conventional			
- Main TSA		380 000	
-Clayoquot Snd		13 700	
Sub-total	464 630	393 700	-15.3
Deciduous	3 870	6 300	+62.8
Insect/Disease	-	-	
Marginal	-	-	
Total	468 500	400 000	-14.6
Woodlot AAC		13 750	

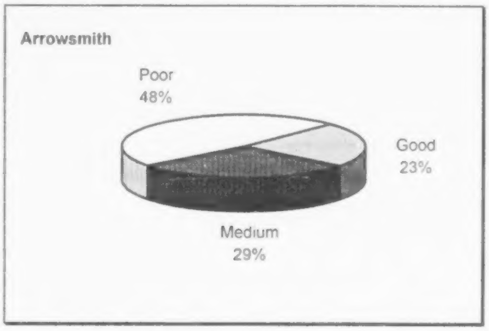
*effective Dec 30/96

Harvest Forecast



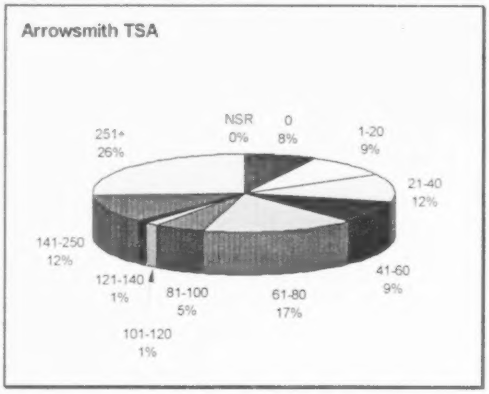
Corrected Base Case

Site Class



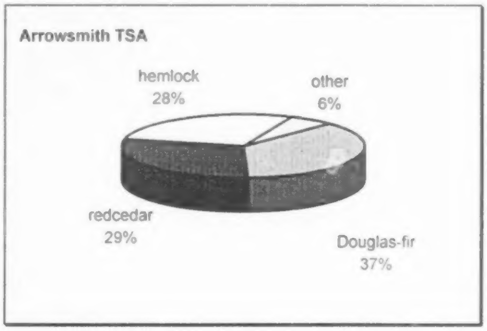
Uncorrected THLB

Age Class



Uncorrected THLB. Data scaled from chart in TS analysis report.

Tree Species



Uncorrected THLB

Issues

Individual Issue Analysis

The following information is primarily from documentation produced under the first timber supply review, or TSR1. Sources are noted, with full references given on page 28. Only information which is relevant to an incremental silviculture strategy is recorded. Key statements are bolded. *Since the timber supply analysis report, the chief forester used a corrected base case in determining the AAC and created a partitioned AAC for the Clayoquot Sound portion of the TSA. These factors are not represented in the information below.*

Issue	Comment / Sensitivity Analysis
♦ Harvest Forecast	Initial harvest level (IHL) of 479 150 m3[1] maintained for only one decade, followed by declines of about 12%/decade, reaching a mid term level of 277 000 m3 (**42% below IHL, 30% below TSR1 AAC**) 50 years from now. This shortfall level is maintained until 140 yrs from now, when harvests increase at the rate of 10%/decade to reach a long term harvest level (LTHL) of 337 000 m3 (30% below IHL, 14% below TSR1 AAC). (rationale, 12)
♦ Age Class	Younger stands dominated by predominantly good and medium site Douglas-fir are more common in the eastern portions of the TSA, while older stands dominated by predominantly poor-site western red cedar and western hemlock are more common on the west side. This **east/west split of age groups has implications** for distribution of harvest, commercial thinning potential and landscape level biodiversity. Commercial thinning in the eastern portion allows the shifting of part of the harvest that would otherwise all be concentrated in the older stands of the western portion.
♦ Forest Cover	The Arrowsmith is more sensitive to green-up ages than adjacency. *IRM Zone*: 52% of THLB (rationale, 28). Max 25% to be below green-up ht of 3 m (4 pass). Sensitivity test ± 1 pass. CF satisfied with base case assumptions (rationale, 29). Source of sensitivity results: AAC Rationale. Relaxation: (3 pass) Short term insensitive. Increase: (5 pass) Short term sensitive, dropping 9% below base case in 1st decade. *VQO Zone*: 45% of THLB (rationale, 28). Max 25% to be below green-up ht of 5 m (4 pass). Sensitivity test maximum (5% retention, 15% partial retention, and 25% modification) and minimum (1% retention, 6% partial retention, and 16% modification) allowable disturbance limits (base case based on mid-point of allowable limits). Source of sensitivity results: TSR report. Maximum limits (least stringent requirements): Short term slightly sensitive, rising 2% above base case. **Mid term very sensitive**, rising 10% above base case. LTHL 4% higher. Minimum limits (most stringent requirements): **All periods moderately sensitive**, dropping 9% below base case in 1st decade, 8% mid term, and 9% long term. *Green-up* - 3m in IRM zone (ages 12 - 15 yrs); 5m in visual quality zones (ages 15 - 20 yrs). Sensitivity test ± 5, 10 years (10 yr sensitivity test not reported below as this would require 2

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[1] 479 150 m3 is considered in the AAC rationale to be the pre-TSR AAC. This figure does not match the pre-TSR AAC of 468 500 m3 given in CF summary dated Jan 29/97.

Issue	Comment / Sensitivity Analysis
	year old trees to be greened up). Source of sensitivity results: AAC Rationale. Decrease: (-5 yrs) Short term insensitive; **increases supply in medium and long term by 11% and 5%** respectively. CF acknowledges that higher site indexes may reduce time to green-up and may increase mid and long term harvest levels. Increase: (+5 yrs) **Short term highly sensitive**, dropping 20% below base case in 1st decade.
◆ Backlog NSR	197 ha backlog NSR considered uneconomical to plant. Assumed to fully restock naturally over 30 years.
◆ Quality	• 3 832 ha deciduous completely deducted from harvesting land base. Deciduous volumes in mixed stands excluded from yield tables. CF creates partitioned AAC based on 289 ha likely to be harvested over 15 years. (rationale, 17) • 4 372 ha non-merchantable stands completely deducted from harvesting land base (low site or too low volume stands). • OAF2 for Fdc set at 16.9% to account for losses to root rot (70% of stands estimated to have moderate to severe infection).
◆ Older Forests	Objectives not yet established. No base case requirement. No sensitivity tests. CF to incorporate in next determination. Relaxation: N/A Increase: Not a problem in west. **Likely a considerable problem in east** where very little old growth exists.
◆ Min. Harvest Ages	Duncan district: age at which stand reaches 30m height. Pt. Alberni district: E zone - min DBH of 25cm and min vol/ha of 300 m3; W zone - 400 m3/ha; cable/heli zone - 600 m3/ha. Ages range from 45 yrs on good sites to 165 years on poor sites. Sensitivity analysis indicates short term insensitive to changes.
◆ Silvicultural Systems	Clearcutting assumed in base case. Partial cutting common in east zone and clearcutting with reserves frequently found in west, but neither taken into account in analysis. CF estimates reserves represent approx. 1% of available timber supply.
◆ Estimates of Timber Volumes	VDYP used for existing stands 30 years and older. TIPSY used for regenerated stands and existing stands < 30 years. *Existing stand volumes*: CF considers volume estimates reasonable. Source of sensitivity analysis: TSR analysis report. Long term insensitive Increase: Short term slightly sensitive, with harvest levels over 1st 3 decades 2% above base case. **Medium term harvest level 7% above base case.** Decrease: **Short term very sensitive**, with harvest levels over 1st 3 decades 9% below base case. Medium term harvest level 6% below base case. *Regenerated stand volumes*: sensitivity tests for ± 10% in volume. Source of sensitivity analysis: AAC rationale. Short term insensitive. Increase: **Medium and long term harvest levels 6% and 10% above base** respectively. Decrease: Medium and long term harvest levels 6% and 10% below base respectively.
◆ TSA fragments	71 land fragments in eastern portion of TSA. These require more restrictive management regimes.

Summary of Issues by Period

Short Term: 1-20 years

A lack of available older stands makes the short term harvest level highly sensitive to green-up ages and/or forest cover constraints. The fact that short term volumes must also come from poorer sites exacerbates the problem. This is because harvesting a given volume of timber from them requires a greater area than from better sites having higher volumes per hectare.

The 2nd decade harvest is limited by reversion of timber licences into the TSA. These constitute 5% of the long term THLB. These areas do not contribute volume under the AAC when harvested, but, when reverted, add to the area not greened up, thereby affecting adjacency.

Mid Term: 21 - 150 years

Although there is a good distribution of younger age classes, there is a mid term shortfall in harvest levels before rising to the long term harvest level. A number of factors cause this. There is a shortage of stands currently aged 81 to 140 years. Existing immature stands aged 21+ are considered unmanaged, therefore having lower yields per hectare. This is reflected by applying VDYP yields. In contrast, regenerated stands are considered to be fully managed, thus having higher yields as reflected through the application of TIPSY yields.

The timber supply shortage in decades 10 to 15 is also affected by:

- forest cover constraints in the visual quality zones;
- there being insufficient 2nd growth timber in the IRM and modification visual quality zones; and
- the fact that at this time approximately one-half of the THLB is of poor site quality where stands have relatively old minimum harvest ages and low volumes/ha.

Long Term: 151+ years

The long term is sensitive to changes in green-up ages and in long term yields. The sensitivity to changes in regenerated volumes is virtually on a 1:1 ratio; for every 1% increase or decrease in regenerated volumes there is a corresponding 1% increase or decrease in the LTHL.

Long term yields in Douglas-fir are affected by root rot. Approximately 37% of the TSA is comprised of stands having this as the primary species and for which yields have been reduced an additional 12% to account for losses to root rot. (This reduction has been implemented by increasing the TIPSY OAF2 factor from the normal 5% to 16.9%.)

Future

Future factors to be considered in determining an incremental silviculture program include:

- further reductions in land base resulting from implementation of the Vancouver Island Land Use Plan;
- the implementation of biodiversity and old growth plans, particularly affecting the eastern portion of the TSA which has very little current old growth.

Incremental Silviculture History

Approximately 550 ha are harvested annually. This amount varies over time depending upon how much logging is on poorer sites. (analysis, 21)

Treatment	Incorporated in Timber Supply Analysis	Not Incorporated in Timber Supply Analysis
◆ Backlog	Naturally restock 197 ha in 30 years. Assumes the maintenance of previously stocked backlog NSR areas that are not yet free growing (mostly brushing - 750 ha's outstanding as of June/98).	
◆ Conversion		Nil.
◆ Commercial Thin		350 ha/yr at the time of TS analysis (rationale, 26). Recent level (avg 96/97 to 98/99) is approx. 300 ha/yr.
◆ Space	Approximately 375 ha spaced annually (rationale, 26). To reflect this, TIPSY was used on stands regenerated over the past 20 years. Assumes basic spacing for stocking control on those stands harvested after 1987 (stands approximately 1 - 8 yrs of age) and incremental spacing on those harvested before this date (stands approximately 9 - 20 yrs of age). Recent level of incremental spacing (avg 96/97 to 98/99) is 353 ha/yr.	
◆ Prune		550 ha/yr at the time of TS analysis (rationale, 26). Recent level (avg 96/97 to 98/99) is approx. 500 ha/yr.
◆ Fertilize		550 ha/yr at the time of TS analysis (rationale, 26). There is no fertilization program planned for 98/99.
◆ Space/ Prune		All spaced stands are pruned 1 or 2 lifts (see regime table).

Higher Level Goals and Objectives

This section documents higher level goals and objectives relevant to an incremental silviculture strategy for the TSA.

Provincial Goals

Fundamentally, government's goals can be characterized as:

- sustainable use;
- community stability; and
- a strong forest sector. (MoF, 1998a)

Provincial Objectives

Until provincial targets for timber quantity and quality are established, management unit strategies are to consider the following interim provincial strategic objectives (MoF, 1998a). Incremental silviculture strategies must also be in keeping with higher level plans under the Forest Practices Code.

Objective 1:	Maintain current harvest levels as long as possible without creating disruptive shortfalls in future timber supply.
Objective 2:	Create a long term timber supply capable of supporting a steady long term provincial harvest level similar to current levels.
Objective 3:	Minimize the interim shortfall in provincial harvest anticipated before a steady long term timber supply is achieved.
Objective 4:	Create a long term timber supply which will enable the timber quality profile of future harvests to be the same or better than the current profile.

It is recognized that not every management unit has the same capability to contribute to these interim objectives. Further, it is recognized that these objectives may not be attainable at current funding levels. Their purpose is to provide general guidance to the application of available funds.

Regional Objectives

The objectives of the regional incremental silviculture strategy are to:

- Ensure a long term sustainable harvest which approximates the current harvest value and volume levels and that produces a diversified mix of products necessary to create and maintain sustainable forest employment.
- Balance treatments that enhance growth and yield such as fertilizing, spacing and forest health activities with those that increase the value of the wood such as pruning.
- Utilize incremental silviculture treatments to contribute to sustainable management of non-timber values at the landscape level. (MoF, 1998b)

Opportunities to Increase Timber Supply

Opportunities Indicated Through TSR Sensitivity Analyses

TSA modelling in support of planning incremental silviculture has not yet been undertaken. In its absence, sensitivity analyses from the TSR1 analysis report are the best source of information as to the opportunities for incremental silviculture to increase future timber supply. The following are selected sensitivity analsysis charts from the TSR1 analysis report, to which opportunity information is added.

Since the TSR1 analysis report, an amended base case was prepared. Further to this, the chief forester considered in his AAC determination a harvest forecast which excluded the area in Clayoquot Sound, and partitioned the AAC on that basis. Thus, while the sensitivity analyses shown below may indicate certain potential results from silvicultural actions, they are not directly comparable with the TSR1 AAC. Further analyses are required to confirm the indicated effects.

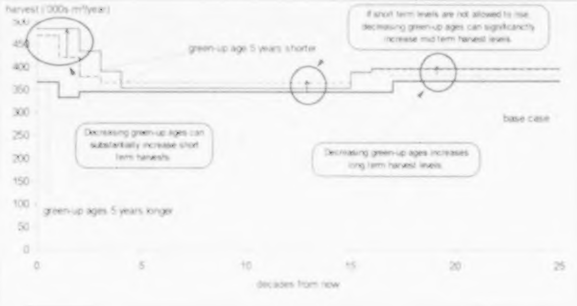

Figure 1. Opportunities to Raise Harvest Levels By Reducing Green-up Ages, Arrowsmith TSA

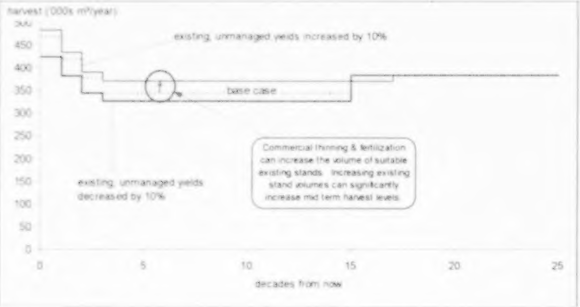

Figure 2. Opportunity to Raise Mid Term Harvests Through Commercial Thinning & Fertilization, Arrowsmith TSA

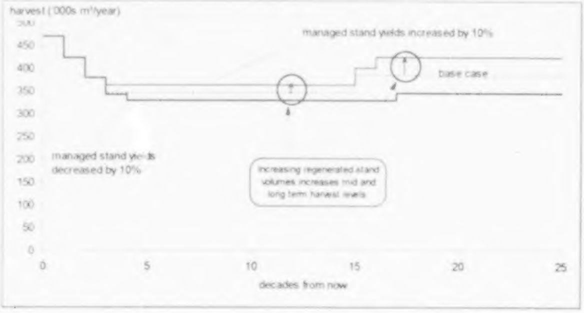

Figure 3. Impact of Increasing Regenerated Stand Yields 10%, Arrowsmith TSA

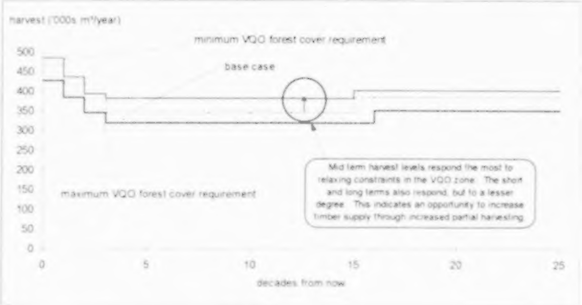

Figure 4. Potential Effects of Increasing Partial Harvesting Methods in the VQO Zone, Arrowsmith TSA

Preliminary Identification of Silviculture Opportunities

Information in the previous sections indicates the following silvicultural strategies may have potential to increase future timber supply. Each of these was discussed in detail in the district working session, the results of which are recorded in "Potential Strategies by Response Time Frame," page 12, along with additional strategies that arose during the meeting. Strategies that are ultimately adopted are noted in "Silviculture Strategies," page 24.

Short Term (1 - 20 yrs)

ST 1: implement more alternative silviculture systems to overcome adjacency limitations; and

ST 2: reduce green-up ages 5 years.

Mid Term (21 - 70 yrs)

MT 1: implement a range of practices and incremental silviculture treatments that will increase regenerated stand yields 25% as well as decrease green-up ages 5 years; and

MT 2: commercial thin and fertilize older existing stands in the VQ zones to increase yields.

Long Term (71+ yrs)

LT 1: increase regenerated stand volumes 25%.

Available Information Regarding Potential Treatments and Treatable Area

This section summarizes available information directly relevant to the potential treatments for the TSA.

Treatment	Comment/ Potential Treatment Regimes	Treatable Area/
♦ General	The CF states in the AAC rationale, "Clear plans and further modeling of incremental silviculture practices is needed before the next determination in order to project the timber supply implications with higher confidence."	
♦ Conifer Release/ Brushing	No opportunities noted in TS analysis.	26 ha of NCBr excluded from analysis.
♦ Spacing	375 ha/yr at time of TS analysis. Effects not analyzed, but spacing assumed through application of TIPSY yields to age class 1 stands. May be used to improve upon 15% OAF1 TIPSY reductions.	
♦ Fertilization	550 ha/yr at time of TS analysis. An analysis by Timberline, *Forest Level Benefits to Commercial Thinning and Fertilization*, indicates that increases in harvest due to fertilization for accelerated green-up start to appear in the second decade and peak in the 5th decade when increases over base levels are from 7% (with a 2 yr reduction in green-up ages) to 22% (with a 50% reduction in ages). A 2 yr decrease in ages yields no benefits over decades 6 to 14, whereas a 10% increase is realized during this period from a 50% reduction in ages. Long term effects are measurable but relatively minor (1-4%).	37% of forests in the THLB has Fdc as the leading species and may be candidates for fertilization. There is little data on response of juvenile stands to fertilization. Fdc is expected to respond well, but the Timberline study was based on all E zone stands having a response.
♦ Commercial Thinning	350 ha/yr at time of TS analysis. MoF conducted a post-TSR sensitivity test of combined CT and fertilization on Fdc (at higher levels than currently practiced). The results showed no effect in short term, 2 000 m3 increase mid term and 4 000 m3 increase long term. Shifts part of harvest from older stands in W to younger stands in E zone.	Approx 26% of the THLB is currently aged 41-80 which may be candidates for CT. The actual area may be somewhat less if CT only practiced in conjunction with

Treatment	Comment/ Potential Treatment Regimes	Treatable Area/
	Sensitivity test of combined CT and changes to VQ zone guidelines indicates no short term sensitivity but significant 10% gain in mid term and 3% gain in long term. May be used to mitigate short-term wood supply pressure should more stringent green-up/adjacency requirements be imposed. CF notes some opportunity to offset projected losses to root rot. An analysis conducted by Timberline (see above reference) in contrast noted that a combined CT/fertilization program has substantial potential to increase future harvest levels by as much as 22% in the short term and 14% in the long term depending upon the chosen treatment regime. This analysis is based on limiting CT to 300 ha/yr (below current levels) in east zone Fdc and multiple fertilization of Fdc managed stands in the east zone.	a fertilization program. See above.
◆ Backlog NSR	No additional opportunity. Minor existing amount to be naturally restocked in 30 years.	197 ha
◆ Conversion	No additional opportunity to harvest/rehabilitate deciduous. Partitioned AAC based on calculation of max amount available after all constraints considered. No plans to convert NCBr.	26 ha NCBr

Potential Strategies by Response Time Frame

This section documents the discussions and outcomes of the district working session.

In the AAC rationale, the chief forester identified a number of potential downward influences on timber supply. For the purposes of this strategy, however, a status quo is assumed with respect to these. Should any arise, the indicated strategies would serve to mitigate their effects rather than increase timber supply.

Explanatory notes with respect to the following tables:

Column Number	Note
1	The response time frame is the period in which the anticipated result is expected, not the period in which actions must necessarily commence.
2	Strategy numbers correspond with the numbers recorded earlier in "Preliminary Identification of Silviculture Opportunities," page 11. Items followed by an * were added during the district working session.
3	Information in this column is largely from the district working session, combined with information presented earlier in this document. Potential treatment regimes are highlighted in bold print.
4	Anticipated results are calculated using the timber supply response indicated by TSR1 sensitivity analyses.
5	The harvest forecast for the short term uses the TSR1 AAC as the starting level in the first decade. Mid and long term harvest forecasts take the base case levels from TSR1 as the

Column Number	Note
	starting levels. The harvest forecast column was not thoroughly reviewed during the district meeting. *Results are largely conjecture and are meant to illustrate the potential strategies.*

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Re	
◆ Short Term (1 - 20 yrs)	1. Implement more alternative silvicultural systems to overcome adjacency constraints. 2. Reduce green-up ages by 5 years by: reducing time to regeneration; using A class seed or better; using large planting stock; fertilizing regenerated stands where efficacy is proven.	1. In effect. E. coast now all small seed tree retention blocks. W. coast primarily clearcut with reserves. Approx. 300 ha/yr of CT, mostly on the E side of the TSA. 2. Almost all are currently being managed as per strategy items. (b) All Fdc seed is 1st generation "A" class. Latest estimates of yield gains are (%):[2] Species / 1st gen / 2nd gen Doug-fir / 3-5 / 15 Hemlock / 3 / 20 Cedar / 3 / 10	Maintain post TSR AAC into 2nd decade.	400

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[2] Source: participants at Chilliwack district meeting.

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Re	
◆ Mid Term (21 - 150 yrs)	1. Increase regenerated stand yields 25% and reduce green-up ages 5 yrs by: continuing above short term program for reducing green-up ages; practicing root rot management in Fdc; and manage stocking so as to reduce voids.	1. All strategies currently in effect except fertilization. Repeat fertilization of regenerated stands as well as fertilization of existing commercially-thinned stands required.	Based on TSR1 sensitivity analysis results, actions will increase harvest: 1. 15% (pro-rated mid term response) from increased yields of regenerated stands (including effect of 5% TIPSY OAF1 reduction for all stands and 5% OAF2 reduction in Fdc); 10% from reduced green-up ages;	277 - base case 108 - 39% 385
	CT and fertilize older existing immature stands in VQ zones to increase yields of existing stands.	2. Approx. 300 ha/yr are commercially thinned.	2. 4% from fertilization and CT;	
	Implement more alternative silvicultural systems to overcome adjacency constraints.	3. See ST1 above.	3. 10% from partial cutting in VQO areas.	
			Total: 39% Unknown if effects are additive. Increased site productivity may compound some effects.	

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Re	
◆ Long Term (151+ yrs)	1. Increase regenerated stand yields 25% as above.	All strategies currently in effect except fertilization. Repeat fertilization of regenerated stands required.	Increase harvest: 1. 25% from increased yields of regenerated stands, including: • 10% tree improvement; • 5% fertilization; • 5% TIPSY OAF1 reduction for all stands, and; • 5% OAF2 reduction in Fdc).	325 - base case 110 - 34% 435
	2. Reduce green-up ages as above.		2. 5% from reduced green-up ages.	
	3. Implement more alternative silvicultural systems to overcome adjacency constraints.		3. 4% from partial cutting in VQO areas. Total: 34% Unknown if effects are additive. Increased site productivity may compound some effects.	

Potential Harvest Forecast

Figure 5 graphs the potential harvest level that may be attained through implementation of the silvicultural strategies in the preceding tables. This forecast is highly speculative and requires confirmation through computer-based modeling and analysis. Modeling may also indicate more precise timing, targeting and program levels associated with incremental silviculture activities than could be developed in this interim strategy.

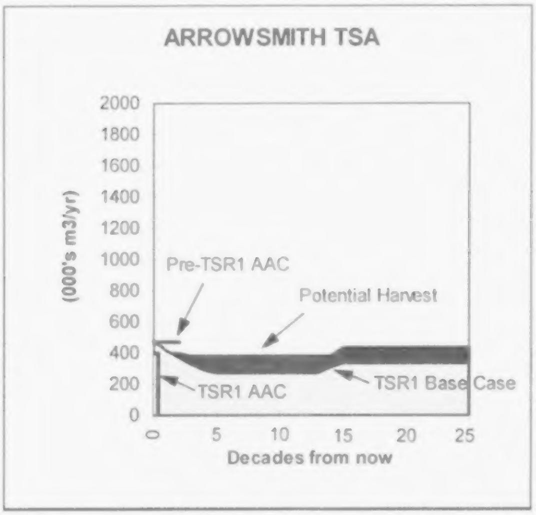

Figure 5. Potential Harvest Forecast, Arrowsmith TSA

This chart is based on the timber harvesting land base and forest practices at the time of the TSR1 analysis. Land base reductions through the Vancouver Island Land Use Plan and additional forest practice requirements under the Forest Practices Code may result in lower forecast harvest levels than shown.

Summary of Information and Research Needs

During the assessment process, the following needs for further information and research became apparent. The outcome of these have implications for an incremental silviculture strategy.

1. Achievement of an OAF 1 factor of 10% requires confirmation. Survey techniques are available. Requires statistical validity at the management unit level if to be used for AAC determination.
2. Old growth site index and existing stand volume estimation studies require completion.
3. Hemlock response to fertilization is variable. Were the causes for this determined there may be considerable potential for hemlock fertilization to improve the harvest forecast. A program of screening trials to determine the extent of treatment opportunities is required.

Opportunities to Improve Timber Quality

The effects of incremental silviculture on the future quality of the timber resource were not analyzed in the timber supply review. Information in this section was gathered during the district working session.

Log Product Objectives

The following product objectives at the log level for the Arrowsmith TSA were defined by the participants at the district working session.

Premium Log:	45 + cm DBH, pruned Douglas-fir. 200 + years, unpruned Douglas-fir.
Sawlog:	Duncan district: age at which stand reaches 30 m height. Pt. Alberni district: E zone - min DBH of 25 cm and min vol/ha of 300 m3; W zone - 400 m3/ha; cable/heli zone - 600 m3/ha. Ages range from 45 yrs on good sites to 165 years on poor sites.

Available Information Regarding Potential Treatments and Treatable Area

Treatment	Comment/ Potential Treatment Regimes	Treatable Area
◆ Spacing		
◆ Commercial Thinning		
◆ Pruning	550 ha/yr at time of TS analysis. CF acknowledges this may improve value, however clear plans and further modeling is needed in order to project timber supply implications.	Consider riparian management zones and old growth areas for long rotation quality management program.
◆ Space/ Prune	All spaced stands are pruned.	

Potential Strategies by Response Time Frame

The following strategies have potential to increase timber quality. These were identified in the district working session. The response time frame is the period in which the anticipated result is expected, not the period in which actions must necessarily commence.

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	
◆ Short Term (1 - 20 yrs)	None	Short term harvests will largely come from existing very old stands in the W zone which are not treatable to improve quality.	Quality profile of existing old growth will prevail. Assume this is equal to recent coast-wide estimate of 15%.	15%?

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	
◆ Mid Term (21 - 150 yrs)	1. Prune all spaced stands. 2. Fertilize after 2nd lift prune.	1. **Annual program 500 ha/yr.** Current pruning regimes are: East zone: Douglas-fir 2 lifts - all stems pruned 1st lift, 300 st/ha pruned 2nd lift; hemlock/cedar one lift. 1 lift pruned Fdc expected to be removed through commercial thinning. West zone: hemlock/cedar one lift. 2. Fertilizing after 2nd lift gives a volume boost, as well as can accelerates occlusion of pruned limb stubs. If Douglas-fir is approx. 40% of annual harvest, this requires **a fertilizing program of 220 ha/yr**. (0.4 X 550 ha).	1. Fdc about 35% of THLB. Assume this ratio applies to avg area harvested = .35X550 ≅ 200 ha. If 2 lift prune means 2X200=400 ha/yr is in Fdc. Remaining 100 ha is HC. If 25% of tree vol is pruned 1st 5m log, and ½ of stems are 2 lift pruned, future vol premium Fdc= .25 X .35 X .5 ⇒ 4%. If other ½ of stems are 1 lift pruned, premium = ½ of above ⇒ 2% 100ha of 1 lift prune/yr = 100/550 X (.5 X .25) ⇒ 2%. 2. Improves volume, thereby improves % premium component.	8%
◆ Long Term (151 + yrs)	As above.	If 5% of Fdc is required to be reserved to older age such that it achieves an age of 200+ yrs, this will yield an additional 1% premium log volume (25% vol/tree X 5%).	As above. (8% + 1% = 9%)	9%

Timber Quality Forecast

The foregoing analysis indicates premium log content in the Arrowsmith TSA will decline to a little better than one-half of today's levels.

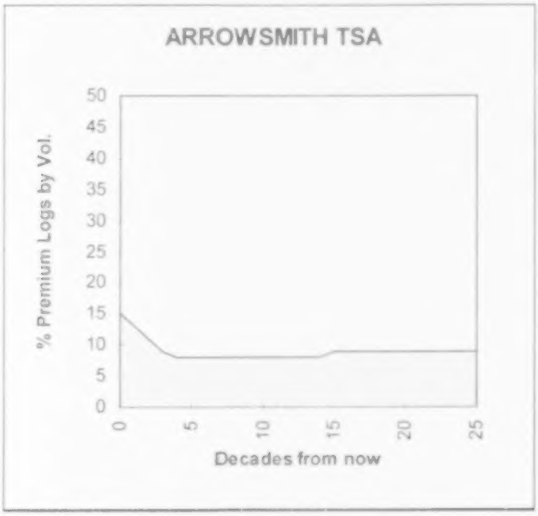

Figure 6. Potential Quality Forecast, Arrowsmith TSA

Incremental Silviculture Strategy

General Strategy

The existing age class structure of the Arrowsmith TSA, coupled with an east/west split in age groups, make it particularly sensitive to changes in forest cover requirements and in volume estimates for existing and regenerated stands. The general strategy, therefore, is to undertake those silvicultural treatments that will overcome these constraining factors, in particular to increase stand volumes, reduce green-up ages, and implement alternative silvicultural systems to gain access to stands otherwise unavailable due to adjacency constraints. Much of this is now occurring in the TSA.

The ability to maintain future harvest levels at near current levels enables a focus on timber quality. The high accessibility of stands, coupled with a large proportion of Douglas-fir make this TSA well-suited to an extensive pruning program.

Working Targets

The preceding analysis indicates the following working targets may be attainable. Figure 7 illustrates these.

WT 1 (Quantity): Maintain the current harvest level of 400 000 m3 in the short and mid terms, rising in 15 decades to a long term harvest level of 435 000 m3.

WT 2 (Quality): Maintain the proportion of premium logs at or above 8% of future harvest volumes.

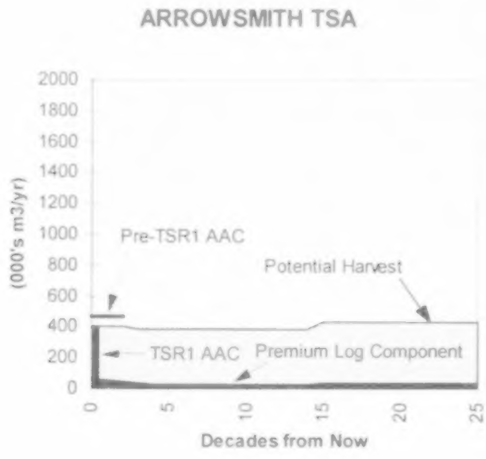

Figure 7. Combined Potential Quantity and Quality Harvest Forecasts, Arrowsmith TSA

Log Product Objectives

The following are definitions of premium logs and sawlogs in the Arrowsmith TSA.

Premium Log: 45 + cm DBH, pruned Douglas-fir. 200 + years, unpruned Douglas-fir.

Sawlog: Duncan district: age at which stand reaches 30 m height. Pt. Alberni district: E zone - min DBH of 25 cm and min vol/ha of 300 m3; W zone - 400 m3/ha; cable/heli zone - 600 m3/ha. Ages range from 45 yrs on good sites to 165 years on poor sites.

Silviculture Strategies

The following strategies have identified potential to increase the quantity and quality of the timber supply of the Arrowsmith TSA. Strategy numbers correspond with those recorded earlier.

Strategies to Increase the *Quantity* of Future Timber Supply

No.	Strategy
ST1	Implement alternative silvicultural systems to over come adjacency constraints.
ST2	Reduce green-up ages by 5 years by: reducing time to regeneration; using A class seed or better; using large planting stock; and fertilizing regenerated stands where efficacy is proven.
MT1	Increase regenerated stand yields 25% and reduce green-up ages 5 yrs by: continuing above short term program for reducing green-up ages; practicing root rot management in Fdc; and manage stocking so as to reduce voids.
MT2	CT and fertilize older existing immature stands in VQ zones to increase yields of existing stands.
LT1	Increase regenerated stand yields 25% as above.
LT2	Reduce green-up ages as above.
LT3	Implement more alternative silvicultural systems to overcome adjacency constraints.

Strategies to Increase the *Quality* of Future Timber Supply

No.	Strategy
Q1	Prune all spaced stands (approximately 500 ha/yr on several pruning regimes).
Q2	Fertilize after 2nd lift prune.

Silviculture Treatments and Investment Priorities

The following table indicates incremental silviculture treatments determined during the district working session to be suitable to attaining the above working targets and strategies. Several treatments may be applied to the same stand in a regime of treatments (however, these regimes are not specifically identified in the table).

Regime Table, Arrowsmith TSA, June 1998

		Timber Supply Effects				Direct Jobs		Direct		
Regimes	Opportunity Area (Ha/Yr)	Short	Medium	Long	Quality	Silv. Days/ha	Harv. Days/m3	Cost $/ha	Habitat	Rank
1 **Backlog Brushing**	100	0	A++	A++	0	3		800		1
Spacing										
2 East G&M, Fdc@4.5m, 600-700 sph Poor, Fdc@4.5m, 800-900 sph	175	0	A+	A+	+	2		800		3
3 West G&M, Hem/c@5-6m, 800-1000 sph Poor, Hem/c@5-6m, not spaced	150	0	A+	A+	+	4		1700		4
4 Habitat	5% of above								+++	
Pruning										
5 East all stems, Fdc @4.5m, 1st lift 2.5 m 300 sph, Fdc @9m, 2nd lift 2.5 m remainder, @3.0 m	350	0	0	0	+++	6		1100		3
6 West all stems, Hem/c @5-6 m 1st lift 3 m no second lift	150	0	0	0	++	8		2200		5
Fertilization										
7 East P&M only, Fdc after CT	300	B+	B++	B++	0	0.1		200		2
after 2nd lift prune	200	0	0	0	+	0.1		200		6

Notes

A-type timber supply effects are incorporated in the TSR base case

B-type timber supply effects are incremental to the TSR base case

Incremental Silviculture Program

The following annualized program will achieve the above goals and strategies.

Program Table - Ha, Arrowsmith TSA, June 1998

Year	Surveys*	Backlog Brushing	Space	Prune	Fertilize
1	2,900	100	325	500	500
2	2,900	100	325	500	500
3	2,900	100	325	500	500
4	2,900	100	325	500	500
5	2,900	100	325	500	500
Subtot Yr 1 - 5	14,500	500	1,625	2,500	2,500
6 - 10	14,500	500	1,625	2,500	2,500
Total Yr 1 - 10	29,000	1,000	3,250	5,000	5,000

* Includes prescription and layout

Unit Cost ($/ha)	50	800	800 East 1700 West	1 100 East 2 200 West	200

Program Table - $ 000s, Arrowsmith TSA, June 1998

Year	Surveys	Backlog Brushing	Space	Prune	Fertilize	Total
1	145	80	395	715	100	1,290
2	145	80	395	715	100	1,290
3	145	80	395	715	100	1,290
4	145	80	395	715	100	1,290
5	145	80	395	715	100	1,290
Subtot Yr 1 - 5	725	400	1,975	3,575	500	6,450
6 - 10	725	400	1,975	3,575	500	6,450
Total Yr 1 - 10	1,450	800	3,950	7,150	1,000	12,900

Forest Health Activities - Gypsy Moth Trapping

$4,500 per year
$22,500 (5 year program)
$45,000 (10 year program)

Note: No Current Fire and Pest Activities

Job Outcomes

The following are the anticipated job outcomes of the preceding program, assuming the program is maintained into the future as necessary to achieve the working targets.

Program Job Outcomes, Arrowsmith TSA, June 1998

Short term *employment associated with undertaking the silviculture activity, in person-days*

Year	Surveys	Backlog Brushing	Space	Prune	Fertilize	Total PDs	Silviculture Jobs
1		300	950	3,300	50	4,600	25.6
2		300	950	3,300	50	4,600	25.6
3		300	950	3,300	50	4,600	25.6
4		300	950	3,300	50	4,600	25.6
5		300	950	3,300	50	4,600	25.6
Subtot Yr 1 - 5	-	1,500	4,750	16,500	250	23,000	127.8
6 - 10	-	1,500	4,750	16,500	250	23,000	127.8
Total Yr 1 - 10	-	3,000	9,500	33,000	500	46,000	255.6

Note: Assumes 180 days of silviculture work = 1 job (Source: Jobs and Timber Accord)

Long term *employment associated with improved quantity of the timber resource*[1]

Decade	Harvest Increment ('000 m3)	Incremental Jobs			
		per year by decade		Total by decade	
		TSA[2]	Prov[3]	TSA[2]	Prov[3]
1	0	-	-	-	-
2	29	25	39	252	389
3	59	51	79	513	791
4	98	85	131	853	1,313
5	108	94	145	940	1,447
6	108	94	145	940	1,447
7	108	94	145	940	1,447
8	108	94	145	940	1,447
9	108	94	145	940	1,447
10	108	94	145	940	1,447
11	108	94	145	940	1,447
12	108	94	145	940	1,447
13	108	94	145	940	1,447
14	80	70	108	699	1,076
15	98	85	131	853	1,313
16	98	85	131	853	1,313
17	98	85	131	853	1,313
18	98	85	131	853	1,313
19	98	85	131	853	1,313
20	98	85	131	853	1,313
21	98	85	131	853	1,313
22	98	85	131	853	1,313
23	98	85	131	853	1,313
24	98	85	131	853	1,313
25	98	85	131	853	1,313
Total				20,152	31,038

1 - Assumes continuation of the incremental silviculture program beyond the first 10 years, in accordance with the strategy.
The total harvest increment is associated with all silvicultural practices documented in the "Opportunities" section and is only partly attributable to spacing and fertilization practices. Some of the increase may be associated with pre-free growing silviculture that was not current practice at the time of TSR1.

2 - Assumes 0.87 TSA level harvesting and prcessing jobs (PYs) per 1000 cubic metre (Source: Arrowsmith SEA)

3 - Assumes 1.34 Provincial level harvesting and prcessing jobs (PYs) per 1000 cubic metre (Source: Arrowsmith SEA)

CONCLUSION

The Arrowsmith TSA is facing a mid and long term fall down in AAC of 42% and 30% of its current level. Basic and Incremental Forest Management strategies have been identified that will soften this fall down, and provide for a modest increase over the long term. The short term benefits of immediate implementation are increased employment opportunities associated with the silviculture treatments. Over the long term the benefits are far greater by ensuring a more stable wood supply of quality fiber. Direct employment associated with silviculture treatments are estimated at 25.6 jobs. Over the long term, provincial employment associated with these strategies is estimated at 1,313 jobs above current predictions.

Basic Forest Management Strategies are to:

- overcome adjacency constraints by utilizing alternative silviculture systems and partial cutting.
- reduce time to reach green-up of 3.0 and 5.0 meters by utilizing large planting stock, fertilizing at the time of planting, use the best genetic stock available, and ensuring an aggressive brushing and weeding program.
- reduce the OAF 2 of 16.9 to 5% by implementing a root rot management program.
- reduce OAF 1 to 10% by ensuring accurate mapping of non-productive areas, and utilizing minimum horizontal intertree-tree spacing to ensure no site loss of growing capacity.

Incremental Forest Management Strategies are to:

- produce quality Douglas-fir sawlogs having 45+cm diameters within 70-80 years, and hemlock within 80-120 years. Where operationally feasible, to carry out partial cutting on stands having an average stand diameter of 30 cm.
- ensure free growing obligations for all pre-October 1, 1987 blocks.
- fertilize all commercially thinned and older stands of Coastal Douglas-fir.
- space and prune all Coastal Douglas-fir.
- space all good and medium site Coastal Western Hemlock stands.
- prune all spaced Coastal Western Hemlock stands
- fertilize all spaced and pruned Coastal Douglas-fir stands.

References

B.C. Ministry of Forests. 1991. *Regional Stand Tending Guidelines*. Vancouver Circular Letter VR91-558. Vancouver Forest Region, Nanaimo, British Columbia. 24p + Appendices.

________. 1995. *Arrowsmith TSA: Timber Supply Analysis*. Timber Supply Branch, Victoria, British Columbia. 93p.

________. 1995. *Arrowsmith Timber Supply Area: Timber Supply Review Discussion Paper*. Timber Supply Branch, Victoria, British Columbia. 15p.

________. 1996. *Forest Management Issues identified Through the AAC Determination Process*. Timber Supply Branch, Victoria, British Columbia. 331p.

________. 1997a. *Summary of Timber Supply Review Results 1992 to 1996*. Timber Supply Branch, Victoria, British Columbia. 20p.

________. 1997b. *Assumptions Included in Timber Supply Analyses: Timber Supply Areas & Tree Farm Licences*. Forest Practices Branch, Victoria, British Columbia. 115p.

________. 1998a. *Guidance towards Participation in the Forest Renewal BC Planning Process and the Development of Resource Management Plans*. Victoria, British Columbia. 20p.

________. 1998b. *Vancouver Region Incremental Silviculture Objectives*. Handout. Vancouver Forest Region, Nanaimo, British Columbia. 1p.

Carter, Reid and Rob Scagel, 1989. *The Effects of Stand Density and Fertilization on Stand Development in Immature Coastal Douglas-fir*. FRDA Report 094. Joint Publication of the Canadian Forest Service and British Columbia Ministry of Forests, Victoria, British Columbia. 15p.

McWilliams, Eleanor and Guillaume Therien, 1997. *Fertilization and Thinning Effects on a Douglas-fir Ecosystem at Shawnigan Lake: 24-year Growth Response*. FRDA Report 269, revised edition. Joint publication of the Canadian Forest Service and the British Columbia Ministry of Forests, Victoria, British Columbia. 44p.

Omule, Stephen A.Y., 1990. *Net Basal Area Response 9 Years after Fertilizing Thinned and Unthinned Douglas-fir*. FRDA Report 097. Joint publication of the Canadian Forest Service and British Columbia Ministry of Forests, Victoria, British Columbia. 20p.

Pedersen, L. 1996. *Arrowsmith Timber Supply Area Rationale for Allowable Annual Cut (AAC) Determination*. Victoria, British Columbia. 28p + Attachments.

Timberline Forest Inventory Consultants Ltd. 1997. *Forest Level Benefits to Commercial Thinning and Fertilization*. Prepared for the B.C. Ministry of Forests, Forest Practices Branch, Victoria, British Columbia. 64p.

September 30, 1999

INCREMENTAL SILVICULTURE STRATEGY

A COMPONENT OF THE CHILLIWACK FOREST DISTRICT

2000
RESOURCE MANAGEMENT PLAN

(for program update refer to 2000 activity templates)

Enhanced Forestry Resource Management Plan

Chilliwack Forest District

Interim Approach

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Introduction

Within the Chilliwack Forest District, rapidly diminishing levels of harvestable old growth timber, low levels of harvest in second growth timber and difficult economic times have resulted in a large number of displaced forest workers. Fortunately, 43% of the district's harvesting landbase is occupied by young (<40 years old) regenerated forests that are capable of providing short and long term employment opportunities through enhanced forestry activities. In addition to the direct employment benefits these silviculture activities offer:

- down-stream improvements to timber quality and value at harvest
- opportunities to address age class imbalances and other timber supply issues
- the potential to extend employment seasons over that of traditional harvest related work and thus improve the stability of the workforce and communities in the Chilliwack Forest District
- new opportunities for resource stewardship including enhancement of habitat for the Northern Spotted Owl, deer winter range, and other critical wildlife habitat.
- potential opportunities and mechanisms for the enhancement of First Nations traditional uses.

The Enhanced Forestry Resource Management Plan is expected to form a corner stone for the Fraser TSA Second Growth Management Strategy which is currently being formulated by the Chilliwack Forest District staff. The second growth strategy is being as prepared to guide a smooth and sustainable transition from heavy reliance on old growth forest for harvesting and employment opportunities to one more focus on second growth forests. The second growth strategy is being prepared to set out guiding principles, strategic direction, describes processes that will be accounted for or dove-tailed with higher level plans that are being formulated.

The following information represents an interim approach that is designed to be used as mechanism for encouraging discussion and new innovative approaches to enhanced forestry activities.

Historical Enhanced Program In the District

Historically, the MOF carried out the vast majority of enhanced and backlog silviculture activities within the Chilliwack Forest District. Below (Table 1) are numerical summaries of levels and types of activities that have been delivered
in the district over the past decade. Not only have these treatments provided tree quality and health benefits to the stands they have provided significant levels of employment to administrative and labor contractors within the local municipal and first nations communities.

Current political direction has stipulated that delivery of these FRBC funded activities will shift substantially to forest harvest tenure holders. In the new delivery approach, the MOF will focus its efforts of ensuring that its legal stewardship role is attained while continuing to undertake a reduced level of enhanced and backlog silviculture activities. To insure that enhanced forestry activities will continue to be delivered in a manner that maximizes the short and long term benefits to the Chilliwack Forest District and the province of British Columbia, this Enhanced Resource Management Plan is being developed and implemented.

TABLE 1 HISTORICAL ENHANCED ACTIVITIES 1988-1997

Year	Juvenile Spacing (ha)	Pruning (ha)	Fertilization (ha)
1988	931	7	1980
1989	1238	20	831
1990	824	23	983
1991	1357	402	1048
1992	1395	409	1446
1993	1399	577	1263
1994	1557	651	943
1995	1920	410	1434
1996	855	146	1441
1997	991	682	0 **

** FRBC would not authorize expenditures for this activity

Resource Management Plan

The primary role of this plan is to provide direction on where and why FRBC funded enhanced forestry activities should be undertaken. Specifically these plans will:

- identify key considerations that need to be accounted for in the implementation of an enhanced management strategy in the Chilliwack Forest District;
- establish resource objectives and priorities a Resource Management Plans (RMP) that will insure that future expenditures maximize the short and long run benefits to the forests of the Chilliwack Forest District while meeting the employment and community stability objectives of the license holders and the Forest Renewal British Columbia (FRBC) program;
- provide stewardship context and priorities that will assist FRBC in the allocation of activity funds Within the Chilliwack Forest District; and
- provide context for the attached Incremental Silviculture Interim Strategy Analysis report requested by FRBC.

The Ministry of Forests has been identified as the coordinator of the resource management planning (RMP) process but this interim plan is the first step in a lengthy consultative and, ideally, consensus based process involving major forest land users.

Key Considerations in Formulation of the Plan

In preparing this management plan, a number of critical considerations have been identified that will guide the formulation and implementation this comprehensive enhanced forest management strategy. Specific considerations relate to:

- management of forest resource value
- planning at the Landscape Unit level
- timber supply issues
- strategies to ensure economic viability of the forest industry

General Forest Resource Management

In the management of all forests a full array of resource values must be considered. However, when dealing with immature second growth stands in the Chilliwack Forest District, timber quality, urban interface, visual resources, domestic water use, deer and Northern Spotted Owl habitat, and biodiversity management issues are particularly challenging.

Biodiversity requirements must be met both at the stand level, and at the landscape unit level. To date the early seral stages management requirements (as per the biodiversity guidebook) have yet to be implemented but once they are enabled, this enhanced forestry plan will be adjusted to reflect those standards.

Maintenance or enhancement of forest health through pest management activities and silvicultural treatments is particularly critical in second growth stands. In the past many problems been carried over unmanaged from the previous rotation or even exacerbated by incorrectly applied enhanced silviculture activities. Equally important are the opportunities to apply a variety of stand treatments that maintain or enhance stand vigor, value and attributes desired for integrated resource management purposes.

It is also important that where possible, silviculture treatments be used to enhance immature stands to create or improve critical habitat for the Northern Spotted Owl and identified wildlife.

Planning at the Landscape Unit Level

Consistent with *Forest Practices Code of B.C. Act* (FPC) higher level planning initiatives, the Chilliwack forest district has recently been broken down into 24 draft Landscape Units (LU's). The impending landscape unit plans will drive all forest management activities within their respective boundaries, it is clear that the enhanced resource management plan be developed so that the unique objectives and strategies of each landscape unit can be achieved.

Timber Supply Issues

The current AAC for the Fraser TSA is 1.55 million m^3/yr and expected to drop significantly over the next few decades. Enhanced forestry activities can help mitigate the rate of AAC reduction but more importantly these activities are expected to substantially increase long run sustained yield (LRSY). There are several key timber supply issues that must be taken into consideration when developing a enhanced resource management plan in the Chilliwack Forest District.

- Juvenile spacing and more importantly fertilization treatments can significantly increase the amount of low elevation areas that are suitable for harvest over the next 30 years. The "moving forward" of these harvest opportunities can help mitigate a critical dip in short term timber supply. Additionally increasing the availability of such low elevation areas that can extend harvest operating seasons and employment seasons. These areas provide forest licensees flexibility in scheduling harvests that in turn reduce harvest pressure on the remaining old growth forests.

- There are many large contiguous areas of second growth in the district that have resource issues (such as visuals, adjacency green-up and critical wildlife habitat) that are spatially and temporally sensitive to rate of harvest. Implementing enhanced forestry activities in these areas can increase stand structure diversity, enhance a forest manager's ability to stager future harvesting activities and minimize adjacency and rate of cut constraints.

- Substantial areas of the Fraser TSA are occupied with older immature "off-site" coniferous tree species. Rehabilitating these stands and reforesting them with more ecologically suitable species (usually removing hemlock from Douglas-fir sites) is essential to restoring site productivity, critical wildlife habitat and mitigating localized age class imbalances.

- Deciduous stands occupy an estimated 10 000 ha of highly productive conifer sites. The Fraser TSR assumes that 75% of these will be converted to coniferous stands over the next five years and failing to do so is expected to lower long run AAC by 100,000 m^3/yr. Unfortunately, it is believed that the majority of these stands are heavily constrained by environmental and social factors and likely unsuitable for stand conversion. TSR assumptions are being revised to reflect more realistic targets but it is clear that stand conversion activities must be undertaken immediately to mitigate future AAC reductions and capitalize on current employment prospects.

Strategies to Ensure Economic Viability of the Industry

Second growth timber can have a high component of small dimension forest products and low quality timber unless they are intensively managed or rotation age are lengthened. As a result of this, the economic viability of many second growth stands can be more sensitive to down turns in log and lumber markets. To ensure that harvest levels, employment opportunities and community viability are stable over time, a number of key strategies must be developed and implemented that will ensure:

1) incremental silviculture activities will be focused on areas that maximize the greatest long-term social and economic benefit to the forest district.

2) activities are prescribed and scheduled such that the full potential and productivity of a site is utilized (i.e. for spacing, pruning commercial thinning, fertilization....)

3) sufficient quantities of high quality logs are produced to allow each licensee to be able to implement market sensitive harvesting and marketing strategies.

4) the job creation and community stability objectives of the Ministry of Forests, forest companies and FRBC are attained

5) regimes are set up to maximize commercial thinning opportunities on suitable sites.

6) standardized end product objectives and associated incremental silviculture regimes are clearly identified and applied on a site type and tree species specific basis (appendix 1).

7) an approach be developed to deal with the treatment needs of critical wildlife habitat that was previously harvested

8) an equitable balance be attained between activities undertaken on TFL and TSA landbases.

Strategies for Achieving The Strategic Direction

Diversity of Standing Timber Products

Diversifying standing timber product profile (i.e. better mix of higher and lower quality wood) will provide a diversity of harvesting opportunities in the future. Having this diversity is believed to provide the flexibility needed to implement market sensitive harvesting strategies. In a market sensitive harvesting approach, it is envisioned that "lower quality" (less profitable) stands would be processed during strong markets and "premium" (more profitable) stands be retained for more difficult market periods.

There will always be a selection of lower quality stand types available to harvest but the key to a market sensitive harvest strategy is the development of the premium stands. Development of these high value stands is heavily reliant on enhanced forestry activities. Because enhanced silviculture dollars are limited, enhanced activities must be focused on easily accessed highly productive sites that will provide the best economic return on the invested funds.

Another critical component of an effective market sensitive harvesting strategy is the maintenance of a comprehensive inventory of the location and types of standing timber products.

Stand Specific Silviculture Objectives

Silviculture activities in immature second growth stands are normally undertaken with the primary intent of either improving the area's long term timber productivity and quality or to enhance the area's wildlife habitat attributes. Historically, these silviculture activities are modified so that the alternative resource uses will also benefit. With the recent clarification of critical habitat linked to the Northern Spotted Owl and work in defining deer winter range and other critical wildlife habitat, the nature of enhanced forest management is changing. However, although these areas are excellent candidates for enhanced activities earmarked to enhance or create long term wildlife habitat, the absence of "higher level" plans for these areas make them poor candidates for financially based enhanced forestry investments. Fortunately, imminent "higher level" plans should clarify the situation.

Incremental Silviculture Interim Strategy Analysis

An incremental silviculture interim strategy analysis….see Appendix 5

Incremental Silviculture Activity Implementation Approach

To ensure the most efficient use of available FRBC funds and the targeting of the "best stands" available, a step wise approval and funding process has been developed (appendix2). The key to the smooth implementation of the process is the evaluation points where DIPG will rank out each proposed activity/work against all others being tabled by the group. A simplified ranking approach is currently being developed. In the interim the priorities laid out in the *Chilliwack Forest District Stand Management Prescription Standards Guide* will be used. The guide identifies stand level activities that will provide a balance between biological needs, capability for producing premium end products, ability to meet higher level management objectives and short/long term social (ie, employment) opportunities.

To ensure smooth and efficient utilization of funds and resources, 2-3 years will normally elapse between a decision to proceed investigate a stand for potential treatment and the actual completion of the treatment activity. However, with the new FRBC delivery model, it is recognized that initially, this time frame may need to be substantially compressed for a limited number of treatment activities to allow new delivery agents enough time to develop a concrete planning and delivery infrastructure.

Appendix1 - Forest Products Treatment Regimes

Recommended treatment Regimes for achieving Forest product objectives in second Growth stands for the Fraser TSA

Leading species	Site index BHA=50	Stand level objectives at rotation	Forest product objectives and Desired log grades	Recommended incremental treatment regimes
Fd, Bg	> 38	**Target height** 45-50 meters **Target dbh** 125 sph > 65 cm dbh & ≥ 125 sph > 50 cm dbh **Target rotation age** 70 years	one 5-10 meter U grade log one 5-12 meter J grade log two 5-12 meter I or H grade sawlogs **Note: F grade sawlogs, and C grade peelers may be possible in the lower log (> 5.0 meters) of pruned Fd	**Fd dominated stand** - **No Commercial thinning planned** • Juvenile space to target density of 500-600 stems per ha where initial density > 1500 sph • First lift prune 500-600 Fd per ha to 2.8 meters when dominants +/- 6.0 meters in height • Second lift prune 500-600 Fd per ha to 5.6 meters when dominants +/- 10.0 meters in height **Fd dominated stand** - **Commercial thinning planned** * • Juvenile space to a target density of 650-800 stems per ha where initial density > 1500 sph • First lift prune 300-400 Fd dominants per ha to 2.8 meters when dominants +/- 6.0 meters in height • Second lift prune 300-400 Fd (first lift pruned) per ha to 5.6 meters when +/- 10.0 meters in height • Commercial thin from below at age 30-40 to a target density of 250-350 stems per hectare. Target removal of > 150 m3 of U and J grade logs **Bg dominated stand** • Juvenile space to target density of 600-750 stems per ha where initial density greater than 1500 stems per ha

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Fd stands with the planned commercial thinning treatment regime must have the following characteristics;
- good long term road access.
- terrain and site attributes suitable for ground based or small skyline harvesting system. Uphill yarding is preferred.
- close to local markets and processing facilities.

** Minimum log grade criteria referenced in table 1.

Recommended treatment Regimes for achieving Forest product objectives in second Growth stands for the Fraser TSA

Leading species	Site index BHA=50	Stand level objectives at rotation	Forest product objectives and Desired log grades	Recommended incremental treatment regimes
Fd, Hw, Bg	**33-38**	**Target height**: 40-45 meters **Target dbh**: 200-250 sph > 50 cm dbh & 125 sph > 45 cm dbh **Target rotation age**: 80 years	one 5-10 meter U grade log one 5-12 meter J grade sawlog two 5-12 meter I or H grade sawlogs **Note: C grade peelers may be possible in the lower log (5..0 meters) of pruned Fd .	**Fd dominated stand** - **No Commercial thinning planned** • Juvenile space to target density of 500-600 stems per ha where initial density > 1500 sph • First lift prune 500-600 Fd per ha to 2.8 meters when dominants +/- 6.0 meters in height • Second lift prune 500-600 Fd per ha to 5.6 meters when dominants +/- 10.0 meters in height **Fd dominated stand** - **Commercial thinning Planned *** • Juvenile space to a target density of 650-800 stems per ha where initial density > 1500 sph • First lift prune 300-400 Fd dominants per ha to 2.8 meters when dominants +/- 6.0 meters in height • Second lift prune 300-400 Fd (first lift pruned) per ha to 5.6 meters when +/- 10.0 meters in height • Commercial thin from below at age 30-40 to a target density of 250-350 stems per hectare. Target removal of > 150 m3 of U and J grade logs **Hw or Bg dominated stand** • Juvenile space to target density of 600-750 stems per ha when initial densities: > 1500 sph when Bg stand ➢ 3000 sph when Hw stand

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* Fd stands with the planned commercial thinning treatment regime must have the following characteristics;
- good long term road access,
- terrain and site attributes suitable for ground based or small skyline harvesting system. Uphill yarding is preferred.
- close to local markets and processing facilities.

** Minimum log grade criteria referenced in table 1

Recommended treatment Regimes for achieving Forest product objectives in second Growth stands for the Fraser TSA

Leading species	Site index BHA=50	Stand level objectives at rotation	Forest product objectives and Desired log grades	Recommended incremental treatment regimes
Fd, Hw, Ba	**28-32**	**Target height** 35-40 meters **Target dbh** 200-250 sph > 50 cm dbh & 100-150 sph > 30 cm dbh **Target rotation age** Fd 80 years Hw 90-100 years	one 5-10 meter U grade logs two 5-12 meter J grade sawlogs one 5-12 meter I or H grade sawlog (only on stems > 45 cm dbh)	**Fd dominated stand** - **No Commercial thinning planned/ Fertilization** • Juvenile space to target density of 500-600 stems per ha where initial density > 1500 sph • First lift prune 500-600 Fd per ha to 2.8 meters when dominants +/- 6.0 meters in height • Second lift prune 500-600 Fd per ha to 5.6 meters when dominants +/- 10.0 meters in height • Fertilize with 200 kg of N per hectare every 5-7 years beginning 2 years after second lift pruning
Cw		**Target height** 35-40 meters **Target dbh** 125 sph > 65 cm dbh & > 250 sph > 45 cm dbh **Target rotation age** 100 years	one 5-10 meter U grade log two 5-12 meter J grade sawlogs one 5-12 meter I grade, H grade or L SHG (shingle) grade **Note: Some F grade or K SHG (shingle) grade may be possible on the lower log of the largest stems (> 65 cm dbh)	**Fd dominated stand** - **Commercial thinning planned*/ Fertilization** • Juvenile space to a target density of 650-800 stems per ha where initial density > 1500 sph • First lift prune 300-400 Fd dominants per ha to 2.8 meters when dominants +/- 6.0 meters in height • Second lift prune 300-400 Fd (first lift pruned) per ha to 5.6 meters when +/- 10.0 meters in height • Fertilize with 200 kg of N per hectare every 5-7 years beginning 2 years after second lift pruning • Commercial thin from below at age 30-40 to a target density of 250-350 stems per hectare. Target removal of > 150 m3 of U and J grade logs **Hw or Ba dominated Stand** • Juvenile space to a target density of 600-750 stems per hectare where initial densities > 3000 sph **Cw dominated Stand** • Juvenile space to a target density of 900-1200 stems per hectare where initial densities are > 2000 sph

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Fd stands with the planned commercial thinning treatment regime must have the following characteristics:
- good long term road access,
- terrain and site attributes suitable for ground based or small skyline harvesting system. Uphill yarding is preferred
- close to local markets and processing facilities

** Minimum log grade criteria referenced in table 1

Recommended treatment Regimes for achieving Forest product objectives in second Growth stands for the Fraser TSA

Leading species	Site index BHA=50	Stand level objectives at rotation	Forest product objectives and Desired log grades	Recommended incremental treatment regimes
Fd, Hw, Ba	**23-27**	**Target height**: 30-35 meters **Target dbh**: 200 sph > 45 cm dbh & 125-250 sph > 30 cm dbh **Target rotation age**: Fd 80 years Hw/ Ba 90-100 years	one 5-10 meter U grade log one 5-10 meter J grade sawlog one 5-10 meter I or H grade sawlog (stems > 45 cm only) **Note: Some C grade peelers may be possible in the lower log (> 5.0 meters) of pruned Fd	**Fd dominated stand** - **No Commercial thinning planned/ Fertilization** • Juvenile space to target density of 500-600 stems per ha where initial density > 1500 sph • First lift prune 500-600 Fd per ha to 2.8 meters when dominants +/- 6.0 meters in height • Second lift prune 500-600 Fd per ha to 5.6 meters when dominants +/- 10.0 meters in height • Fertilize with 200 kg of N per hectare every 5-7 years beginning 2 years after second lift pruning. *Do not fertilize xeric sites (moisture regime 0-1)* **Fd dominated stand** - **Commercial thinning planned*/ Fertilization** • Juvenile space to a target density of 650-800 stems per ha where initial density > 1500 sph • First lift prune 300-400 Fd dominants per ha to 2.8 meters when dominants +/- 6.0 meters in height • Second lift prune 300-400 Fd (first lift pruned) per ha to 5.6 meters when +/- 10.0 meters in height • Fertilize with 200 kg of N per hectare every 5-7 years beginning 2 years after second lift pruning. *Do not fertilize xeric sites (moisture regime 0-1)* • Commercial thin from below at age 30-40 to a target density of 250-350 stems per hectare. Target removal of > 150 m3 of U and J grade logs **Hw or Ba dominated Stand** • Juvenile space to a target density of 700-900 stems per hectare when initial density is > 3000 sph **Cw dominated Stand** • Juvenile space to a target density of 900-1200 stems per hectare when initial density is > 2000 sph
Cw		**Target height**: 30-35 meters **Target dbh**: 250 sph > 45 cm dbh & 375 sph > 30 cm dbh **Target rotation age**: 110-120 years	one 5-10 meter U grade log one 5-12 meter J grade log one 5-12 meter I grade, H grade, M SHG (shingle) grade or L SHG (shingle) grade	

Fd stands with the planned commercial thinning treatment regime must have the following characteristics;
- good long term road access,
- terrain and site attributes suitable for ground based or small skyline harvesting system. Uphill yarding is preferred
- close to local markets and processing facilities.

** Minimum log grade criteria referenced in table 1

Recommended treatment Regimes for achieving Forest product objectives in second Growth stands for the Fraser TSA

Leading species	Site index BHA=50	Stand level objectives at rotation	Forest product objectives and Desired log grades	Recommended incremental treatment regimes
Fd, Hw, Ba, Sx	**18-22**	**Target height** 25-30 meters **Target dbh** 250 sph > 30 cm dbh & >200 sph > 17.5 cm dbh *(in spaced stands the target is 125 sph > 45 cm dbh)* **Target rotation age** Fd 100-120 years Hw/ Ba/ Sx 110 years	one 5-10 meter U grade log two 5-12 meter J grade sawlogs (stems > 30 cm only) Note a minor component (≤ 125 sph) of H or I grade sawlogs , expected in stands that are juvenile spaced	**Fd, Hw, Ba or Sx dominated Stands** • Juvenile space to target density of 700-900 stems per hectare when stands have uniform tree distribution and initial density > 5000 sph. No treatment when stands have non uniform tree distribution and /or densities < 5000 sph
Cw		**Target height** 25-30 meters **Target dbh** 125 sph > 45 cm dbh & 250 sph > 30 cm dbh & > 200 sph > 17.5 cm dbh **Target rotation age** 110 years	one 5-10 meter U grade log one 5-12 meter J grade sawlog one 5-12 meter H grade, I grade, M SHG (shingle), or L SHG (shingle) grade (stems > 45 cm only)	**Cw dominated stands** • Juvenile space to a target density of 900-1200 stems per hectare when stands have uniform tree distribution and initial density > 3000 sph. No treatment when stands have non uniform tree distribution and /or densities < 3000 sph
Fd, Hw, Ba, Sx, Cw, other species	**13-17**	**Target height** 25 meters **Target dbh** 250 sph > 30 cm dbh & 200 sph > 17.5 cm dbh **Target rotation age** 140 years	one 5-10 meter U grade log one 5-12 meter J grade log (stems > 30 cm only)	**Fd, Hw,Ba, Sx, or Cw stands** • No incremental treatment activities are recommended

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Fd stands with the planned commercial thinning treatment regime must have the following characteristics:

- good long term road access,
- terrain and site attributes suitable for ground based or small skyline harvesting system. Uphill yarding is preferred
- close to local markets and processing facilities

** Minimum log grade criteria referenced in table 1

Appendix 2 : Process for Approving , Funding and Monitoring Licensee Enhanced Forestry Activities

Comment:

From FTG surveys & broad scale recces, activity potential and stand attribute info. are recorded in ISIS.

MOF Forester and technical coordinator review information in ISIS in context of Resource Management Plan. ISIS recce ATU priority/ reliability rating finalized in ISIS.

DIP ranking and funding of survey activities*

MOF Technical coordinator downloads "priority" candidate areas from ISIS. In accordance with approved multi-year plan, openings assigned to licensees in standards agreement. Project ATUs assigned in ISIS.

Licensee completes complete stand recce to confirm the stand (s)
that rank out at > medium priority [1] and are suitable for PST and SMP activities [1].
** MOF to do 2% field check

DIP ranking and funding of intensive PST and SMP activities in priority stands*[1]

MOF (Forester &Tech.) review priority candidate blocks in the field with licensee. SMP approach and treatment suitability discussed in the context of achieving of Resource Management Plan (RMP) objectives and priorities.

PST, SMPs and layout completed by licensee under contract directly with FRBC.

MOF technician reviews SMP by for code content compliance and recommends approval by District Manager.** 10% field check for compliance completed with MOF forester and technical coordinator.

Process for Approving, Funding and Monitoring Enhanced Forestry Activities con't

DIP ranking and funding of current years stand treatment(s) in priority stands* [1]

MOF technical coordinator completes Standards Agreement with licensee as per multi-year plan

MOF Forester places projected treatment areas (MOF and licensee) in 2 year silviculture plan fo planning and referral purposes. (Areas amounting to 120% of the treatment target to be shown to account for unforseen implementation problems).

Activities completed by licensee. Treatment report submitted Professional Forester. MOF forester and technical coordinator to do a detailed compliance monitoring (10% frequency) of

Quality certificate completed and payment recommendations made by MOF technical coordinator to FRBC. ISIS completely updated with treatment information.

*All DIP ranking of proposals as well as recommendations for allocations of funding is to occur during the September 30th meeting. From time cycle from initial recce to treatment completion is most efficiently implemented over a three year period.

[1] Completed forms and activities loaded in ISIS. Deferred or incomplete activities rescheduled in ISIS. Low to nil priority proposed activities deleted from the system.

Appendix 3

Fraser Timber Supply Area

Incremental Silviculture
Interim Strategy Analysis

-- Version 1.1 --

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British Columbia

Ministry of Forests

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STRATEGY ANALYSIS AT A GLANCE

General Strategy

The main focus of incremental silviculture in the Fraser TSA is to 1) minimize reductions in short term timber supply and employment, 2) increase the supply of merchantable volume in the form of quality sawlogs during the mid and long term periods, 3) move timber supply forward from the long term into the mid term, and 4) increase the future supply of premium quality logs while maintaining the quality of aesthetic values, critical wildlife habitat and First Nations traditional uses.

The following report focuses on timber supply issues relating to incremental silviculture.

Timber Targets

The Fraser TSA has limited ability to overcome forecast reductions in mid term timber supply but long term levels have potential to be near current levels.

Quantity: Manage mid-term timber supplies to yield a harvest of approximately 1.16 million m3/yr and long term supplies to yield 1.44 million m3/yr.

Quality: Manage regenerated stands to yield at least 8% premium logs by volume, with the majority of the remainder being of sawlog quality.

Product Objectives

The following are simplified product objectives used for the purpose of this analysis. Comprehensive site specific product regimes can be found in the Chilliwack Forest District Enhanced Forest Resource Management Plan - Interim Approach.

Quality Class	Species	Characteristics
Premium Log:	Douglas-fir, clear, pruned	45+ cm min DBH, pruned, min 5 m log.
	Douglas-fir, large timber	45+ cm min DBH, unpruned.
	Hem/Bal/Spruce, large timber	45+ cm min DBH, unpruned.
	Cedar, large timber	45+ cm min DBH, unpruned.

Sawlog: Minimum average stand DBH of 30 cm and min. stand vol. of 350 m3/ha. A large timber log is presently 55 - 60 cm, however, is expected to decrease to 45+ cm in the future.

Major Silvicultural Strategies

Quantity

1. Fertilize 250 ha/yr of Douglas-fir stands scheduled for harvest in the 2nd decade.
2. Repeat fertilize approximately 45 000 ha of Douglas-fir stands on an annual program of 3 000 ha/yr to raise mid term harvest volumes.
3. Space 1 400 ha/yr of Douglas-fir, hemlock and other stands to either set up for commercial thinning or to bring forward harvest the harvest of stand from the long term into the mid term. (Commercial thinning may commence approximately 50 years from now.)
4. Plant 300 ha of backlog NSR and maintain 225 ha of backlog plantations.
5. Increase regenerated stand yields by fertilizing suitable regenerated stands.

The greatest timber supply benefits can be achieved by the following activities which are

not within the traditional scope of incremental silviculture but are included here for consideration.)

1. Achieve green-up 2 years earlier in VQ zones by planting large, genetically improved stock, brushing for growth enhancement and fertilizing regenerated stands.
2. Implement partial harvesting / commercial thinning regimes in VQ zones, fertilizing 150 ha/yr post CT.
3. Increase regenerated stand yields 20% by:
   - using (2nd generation) A class seed or better (requires tree improvement);
   - using large planting stock; and
   - managing stocking to reduce voids 5%.

Quality

1. Prune 250 ha/yr to 5.5 m in two lifts (requires and annual program of 500 ha) to produce 2% clear wood in long term harvests.
2. Space stands (1400 ha) to increase average piece sizes and prepare stands for fertilization and pruning. (The spacing program under strategy #5 above will contribute to this strategy. The dual objectives of increased piece size and earlier harvest may be conflicting. Modelling is required to determine the best balance.)

Habitat

1. Upon completion of the Northern Spotted Owl Resource Management Plans there may be the opportunity to space 250 ha of age class 1 and 2 stands and fertilize 100 ha of age class 1 to 4 stands, as part of a regime to create spotted owl habitat. However, until the plans are finalized these are will not be the focus of investment related incremental forest management activities because of the uncertainty of future harvest potential.

Incremental Silviculture Program

(ha)

Program Table - Ha, Fraser TSA, August 1998

Year	Surveys*	Backlog Planting	Backlog Brushing	Backlog Conversion	Space Df leading	Space Hw leading	Prune 1st lift	Prune 2nd lift	Fertilize	Owl Habitat Space	Owl Habitat Fertilize
1	12,500	100	250	50	420	400	250	300	800	-	-
2	16,500	100	200	100	740	520	250	250	2,000	?	?
3	12,500	100	200	100	740	520	250	250	3,400	?	?
4	9,500	-	100	200	740	520	250	250	3,400	?	?
5	9,500	-	100	200	740	520	250	250	3,400	?	?
Subtot Yr 1 - 5	60,500	300	850	650	3,380	2,480	1,250	1,300	13,000	?	?
6 - 10	60,500	-	500	1,000	3,380	2,480	1,250	1,300	13,000	?	?
Total Yr 1 - 10	121,000	300	1,350	1,650	6,760	4,960	2,500	2,600	26,000	-	-
Unit cost ($/ha)	100	1,500	500	2,500	600	1,000	1,000	1500	200	600	200

* Includes prescription and layout

Note* Overall, Licensees indicated they would like to apportion time spent on activities as follows: Backlog - 30%, Fertilization - 15%, Spacing - 30%, Pruning - 15% and Stand Conversion - 10%.

About the Interim Strategy

The terms of a service agreement between Forest Renewal BC (FRBC) and the BC Ministry of Forests (MoF) require the MoF to develop, and FRBC to fund, what is essentially an incremental silviculture strategy. This document is in fulfillment of this contractual requirement.

Incremental silviculture is part of a suite of strategies which together may influence the future quality and quantity of habitat and timber supply. This strategy document broadly analyzes the full range of potential silviculture activities in order to create a context for an incremental silviculture strategy.

An incremental silviculture strategy should not be confused with the allowable annual cut (AAC) determination process. AAC's are based on actual practice and current information at the time of the determination. This strategy, on the other hand, is about creating a future state of our forests. The degree to which the strategy proves appropriate and is achieved may influence future, but not necessarily present, AAC determinations.

This strategy is founded on readily available information and the knowledge of forestry professionals. It is intended as an interim strategy until a more in-depth analysis-based review is completed.

Methodology

This strategy was prepared through the following process:

1. Prior to the district working session, L. P. Atherton & Associates prepared a preliminary draft of this document, summarizing all available information relevant to a strategy and identifying opportunities to improve the future quantity and quality of timber supply.
2. A district working session was held July 22 & 23, 1998 in Rosedale, attended by representatives of the MoF and forest licensees of the Kingcome TSA. Larry Atherton of L. P. Atherton & Associates and Doug Williams of Cortex Consultants Inc. led the session. Participants reviewed the potential opportunities identified in the draft document along with others that arose. The outcome of the session was a regime table, complete with priorities.
3. The consultants incorporated the results of the working session into the draft document and added forecasts of future harvest quantity and quality and of job outcomes.
4. After ministry review, the consultants submitted a completed strategy to the MoF in electronic form as version 1.0. (The MoF assigned higher numbers to newer versions).

Acknowledgments

The participation of representatives of the following organizations at the district working session is gratefully acknowledged.

Ministry of Forests:

- Chilliwack Forest District
- Vancouver Forest Region

Forest licensees of the Fraser TSA:

- Pretty's Timber
- Tamihi Logging
- Western Forest Products Cattermole
- Interfor
- Canfor

Other Participants:

- N.N.T.C.
- Boston Bar Band
- Boothroyd Band
- Min. of Environment, Lands and Parks

The project was managed by Mr. Larry Sigurdson of the Ministry of Forests, Vancouver Forest Region. Funding was provided by Forest Renewal BC.

Basic Data

Land Area

Description	Area (ha)	Area %
Total Area of TSA	1 107 100	100
Total Productive Crown Forest	507 000	46
Net Timber Harv. Land Base	281 500	25

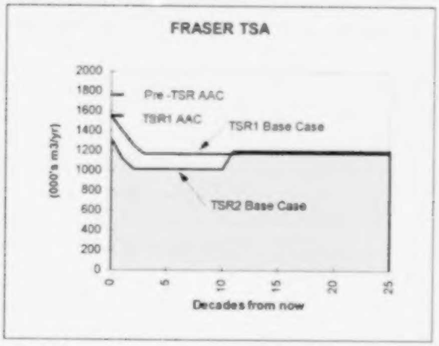
Source: TSR2 analysis report - rounded to nearest 100 ha

AAC

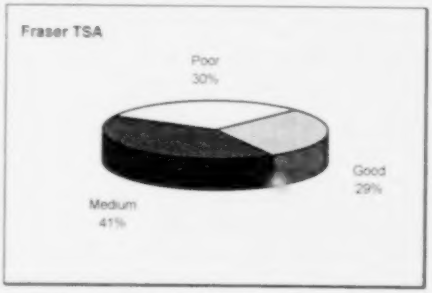
AAC Type	Pre-TSR	TSR1*	Change (%)
Conventional	1 700 000	1 493 000	-12.2
Deciduous	65 000	57 000	-12.3
Insect/Disease	-	-	
Marginal	-	-	
Total	1 765 000	1 550 000	-12.2
Woodlot AAC	Part of conventional AAC	10 000	

*effective Apr 1/95

Harvest Forecast

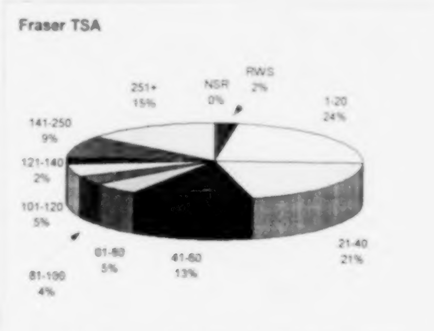


Site Class



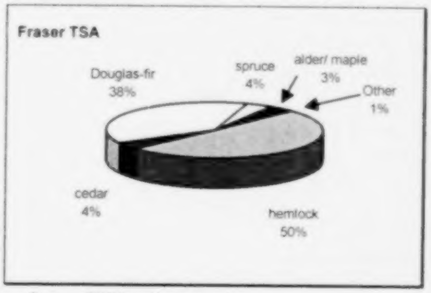
Data interpreted from TSR2 chart

Age Class



THLB only, scaled from chart in TSR2 analysis report
RWS - Regenerating Within Standards

Tree Species



Source: TSR2 analysis report

Issues

Individual Issue Analysis

The following information is primarily from the second timber supply analysis report, or TSR2. Because a TSR2 AAC determination had not been made at the time this document was prepared, the TSR1 AAC rationale statement is also referenced. Full references are given on page 30. Only information which is relevant to an incremental silviculture strategy is recorded. Key statements are bolded.

Note: Sensitivity analyses in the TSR2 analysis report are compared to an "initial" harvest forecast, not the base case. The base case and the initial harvest forecast differ in only the first 3 decades, with the base case starting harvest level being 80 000 m3/yr below that of the initial harvest forecast. The reported percent change in harvest levels is more or less the same for a sensitivity test that uses either the base case or the initial harvest forecast as a reference point. (analysis2, 31)

Abbreviations: AAC - allowable annual cut; THLB - timber harvesting land base; IHL - initial harvest level; LTHL - long term harvest level; CF - chief forester; TSR - timber supply review.

Species abbreviations: Fd - Douglas-fir; Fdc - coastal Douglas-fir; Hw - western hemlock; Cw - western redcedar; B or Ba - balsam fir.

Site class abbreviations: G - good; M - medium; P - poor.

♦ Harvest Forecast	The starting harvest level is 1.32 million m3/yr, about 15% below the TSR1 AAC of 1.55 million m3/yr. **Significant harvest level reduction of 34%** from the TSR1 AAC of to a mid term shortfall level of 1.02 million m3/yr during the period 20 to 100 years from now, rising to a long term harvest level of 1.20 million m3/yr after 110 years (23% below TSR1 AAC). A variation in the standard harvest flow policy allows declines of 15%; a slower rate of decline would have resulted in a larger reduction in the starting harvest level (analysis2, 23). The mid term period is mostly dependent upon harvesting existing unmanaged stands of younger ages (analysis2, 36), but the proportion of harvesting in second growth stands is increasing steadily (analysis2, 37). Harvesting changes from mostly unmanaged stands to almost exclusively managed stands 105 yrs from the present (analysis2, 22). Under a non-declining harvest flow alternative, the short and mid term harvest levels are the same, starting 30% below the starting harvest level of the "initial forecast." This level is about 10% above the base case mid term level, but about 15% below the LTHL. (analysis2, 32). Avg harvested ages decline rapidly, from just under 300 yrs old at the beginning of the forecast to a long term avg of about 120 years starting only 40 years from now (analysis2, 26). Total growing stock also declines over the first 40 years, rising steadily thereafter (analysis2,24). Avg vol/ha harvested is almost constant at 500 m3/ha. This is because the remaining older timber is on poorer site and of relatively lower volume compared to earlier harvests. Younger stands of higher productivity are replacing these, hence the almost constant avg volume (analysis2, 25).
♦ Age Class	Over 60% of the THLB is in stands less than 60 years of age (analysis2, 13). Nevertheless, the age class distribution is not well balanced, with large areas of second-growth timber concentrated in single (10 -yr) age groups (analysis2, 27). Over 80% of existing volume is over min harvest ages (analysis2, 14). Poor site stands are harvested in the model in the periods 10-20 yrs and 80 - 100 yrs from now.

	Avoiding shortfalls in these periods requires the initial rate of harvest to be reduced in order to save a portion of the existing mature for later harvest. (analysis2, 23) Most mature timber upon which harvesting will depend in the short term is located on **poor growing sites**, having implications for meeting forest cover constraints.
• Forest Cover	*General Zone*: (all areas not having more restrictive cover requirements) XX% of THLB. Base case requirement of at most 30% of THLB permitted to be < 3 m tall. Sensitivity test of increasing the constraint by allowing 10% less area to be not greened up. (analysis2, 41) Relaxation: N/A Increase: (-10%, to 20%) Very sensitive. Starting harvest level reduced 17% to a level that can be held for the first 20 years, followed by a drop to the mid term harvest level, one decade earlier than in the initial forecast. *Visual Quality Zones*: About the same area is classed as VQO as in the last analysis (25% of THLB now, 28% last time). However, the area under retention VQO has dropped dramatically from 16% to about 4% of the THLB. This change represents current management and is the result of a review of all existing VQO areas. No adjacency sensitivity tests reported. (analysis2, 18) See "Green-up" below, for related sensitivity tests on green-up ages in the VQO zones. *Deer Winter Range*: About 13 000 ha or 5% of THLB. Base case requirement of same area of forest older than 100 years of the same forest type as currently exists within each landscape unit being maintained over time. Sensitivity test of ± 50% of area requirement. (analysis2, 44-45) Decrease: (-50%) Insensitive. Short term harvest level is not dependent upon harvesting the max. area allowed within the deer winter range. Increase: (+50%) Slight sensitivity over the first 3 decades only (about 2% lower), due to the decreased availability of the existing older stands for harvesting early in the harvest forecast. *Community Watersheds*: 4% of THLB. Base case requirement of at most 5% of area could be harvested in a 5 year period. Sensitivity test of ± 2%. (analysis2, 45-46) Decrease: (-2% to 3%) Starting harvest level reduced about 2%, with levels in decades 2 and 3 about 4% and 6% lower respectively. Mid and long terms 1% lower, due to extending the average age stands become available for harvest to about 167 years (presumably extending them beyond culmination). Increase: (+2% to 7%) Insensitive. Less than half of the area in community watersheds is old enough for harvesting in the short term, resulting in low dependence in the model upon these forests. Also, **making more forest area available is of little benefit because of the need to reserve some of the existing mature timber to avoid projected future shortfalls.** *Green-up*: (analysis2, 40) General zone - 3m (avg 12 yrs). Insensitive to varying requirements between 2 m (9yrs) and 4.5 m (15 yrs). VQO zones - 5m (avg 16 yrs) (25% of THLB - analysis2, 18, 40). Slightly sensitive in short term to varying requirements between 4 m (14 yrs) and 6 m (18 yrs). 4 m requirement raises starting harvest level 1% and reduces rate of decline over next 20 years by 1%.
• Backlog NSR	Not separately identified. Assume all NSR identified in analysis2 report (p 104) will be regenerated within the next decade and thereby does not warrant modelling.
• Quality	• About 10 000 ha of harvestable deciduous types included in the THLB (presumably

(deciduous)	alder), ¾'s assumed converted to Fdc following harvest. Problems with poor stem form and potential location of these stands in riparian management or reserve zones places some uncertainty over the amount of harvesting that will actually occur in deciduous stands. There has been little, if any, harvesting in deciduous stands under the partitioned AAC.[1] If no harvesting occurs, the starting harvest level must be reduced 2%, with 4% and 6% declines in decades 2 and 3 respectively. Mid and long term levels 4% lower because the conversion from deciduous to higher volume Douglas-fir would not occur. (analysis2, 28) • About 5 600 ha of non-utilized deciduous stands deducted (analysis2, 9) - presumably cottonwood, aspen and birch (analysis2, 90).
♦ Quality (other)	• 943 ha of brush deducted from THLB (analysis2, 9). • 34 256 ha of low productivity sites deducted from THLB (analysis2, 9). (61 444 ha deducted in TSR1). [Opportunity to expand the THLB?]
♦ Biodiversity	• The proportion of the THLB under each draft-biodiversity emphasis falls fairly close to the target of 45% low, 45% medium and 10% high biodiversity. (analysis2, 42) • Old seral (old-growth) guidelines were included in the initial harvest forecast. Adding early seral guidelines (30% younger than 40 years), which have been agreed with MELP to be of lesser importance than old, significantly affects short term harvests, causing an almost 40% (unconstrained) drop starting at year 5 and ending at year 20. Adding mature plus old seral requirements (36% older than 80 years) causes a drop of lesser magnitude and which only lasts for a 5 year period. If all seral stage requirements were applied, timber supply plunges 50% starting in year 6, returning to the "initial harvest forecast" level after two decades. These analyses were included in the report for demonstration purposes only. It has been agreed with MoELP that they will not be applied. The mid to long term is not affected by application of the guidelines. (analysis2, 49-51) • A 3% volume reduction is applied to all yields to account for the timber volume left unharvested in wildlife tree patches, based on the assumption that ¼ of the 12% requirement must be provided by the THLB. (analysis2, 100)
♦ Older Forests	At all times, there is sufficient old growth to meet FPCode biodiversity guidelines (analysis2, 27). See also biodiversity. *Deer Winter Range*: Base case 18 000 ha always older than 100 yrs. Sensitivity test of ± 100% of area. Relaxation: (0 ha) Moderately sensitive short term with 5% increase in 1st 3 decades over base case. Insensitive in mid/long term. Increase: (36 000 ha) Moderately sensitive short term with a decrease of 7% over 1st 3 decades below base case. Slightly sensitive mid/long term.
♦ Min. Harvest Ages	Based on age stands achieve 350 m3/ha and an avg. DBH of 30 cm. Ages range from 50 (good site Dfc) to 170 (poor site H/B). Avg modeled harvest age is older than the minimum due to forest cover objectives and managing for a stable flow over time (analysis2, 38). Sensitivity analyses of ± 10% of ages. (analysis2, 38-39) Decrease: (- 10%) Slightly sensitive. Starting harvest level increased 1%. Same rate of decline thereafter. No effect beyond 4th decade. Increase: (+10%) Moderately sensitive. Starting harvest level reduced 2%. Rate of decline over next 2 decades increased about 2%. Mid term about 2% lower. Decreases availability of stands for harvesting in the short term, which also reduces flexibility for dealing with periodic timber supply shortfalls in the future.

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[1] Source: MoF Chilliwack Forest District. Hereafter noted in the text as (CFD).

♦ Silvicultural Systems	(From TSR1: Vancouver Region has issued a requirement for harvesting 10% of the overall volume by alternate silviculture systems. However, little performance at the time of analysis.) No indication in analysis2 report as to silvicultural systems. Table on p 102 indicates all areas except hemlock leading are planted. Hemlock leading stands are regenerated using a combination of planting and natural regimes. **All stands are assumed to have their density controlled by free-to-grow** (analysis2, 102).
♦ Estimates of Timber Volumes	VDYP used for all existing unmanaged stands and for all managed deciduous stands. TIPSY used for all managed existing stands (all stands harvested over the last 10 years, Hw stands harvested over the last 20 yrs, Fdc stands harvested up to 30 yrs age) and all stands to be harvested in the future. (analysis2, 14) TIPSY yields about 15% higher than VDYP (analysis2, 23). *Existing unmanaged stand volumes*: Sensitivity test for ± 10% in volume. (analysis2, 36) Increase: (+10%) Starting harvest level increased 3%. Rate of decline in decades 2 & 3 reduced 3%. **Mid term level increased 10%.** Long term insensitive. Decrease: (-10%) Starting harvest level decreased 4%. Rate of decline in decades 2 & 3 increased 4%. **Mid term level decreased 10%.** Long term insensitive. *Managed stand volumes*: OAF1 - 15%, OAF2 - 5% (analysis2, 102). Sensitivity test for ± 20% in volume. Short term insensitive to either. Highly sensitive to both in long term. (analysis2, 37) Increase: (+20%) **LTHL 20% higher** and achieved 30 years earlier, rising 41% 80 years from now. This creates a significant opportunity for commercial thinning. Decrease: (-20%) **Mid term 8% lower** because proportion of managed stands is steadily increasing. **LTHL 20% lower**, extended at the same harvest level as the mid term.
♦ Site Productivity	Estimated site index for all existing old-growth stands were increased about 7 m, which is the maximum potential increase based on recent research. This increased regenerated stand volumes 15%, reduced green-up ages 1 year and reduced min harvest ages by a range of 0 -80 years. Result - short term harvest levels increase 2% due to earlier min harv ages and green-up ages. Mid term about 4% higher (visual estimate from chart). LTHL about 15% higher, due to increased managed stand volumes. Results must be viewed with caution. Further analysis indicates that after this adjustment, the oldest age grouping has the highest site productivity when compared to younger groupings. This is counter-intuitive because the most productive old-growth sites tend to have been harvested first, not last. (analysis2, 43-44)

Summary of Issues by Period

The Fraser TSA is in a process of continuing adjustment to a wide host of significant factors. The THLB was reduced 90 000 ha between the 1984 and 1993 analysis and increased approximately 20 000 ha between the 1993 and the 1998 analysis. Between the 1993 and 1998 analyses several large parks were created, a spotted owl management plan was completed, an inventory audit found the volumes for existing stands 60 years and older were overestimated an average of 23%, and the Forest Practices Code implemented. Offsetting these downward influences on timber supply were:

- the inclusion of 15 000 ha incorrectly excluded from the last analysis, more stands of marginal timber quality, and 10 000 ha of deciduous stands;

- changes in VQO's; and
- reduced minimum harvesting ages due to higher productivity in stands.

There appears to be relatively little opportunity to use incremental silviculture to effect changes upon the short term timber supply. A general strategy would be to focus efforts on minimizing the mid term shortfall and increasing long term harvest levels.

Short Term (1 - 20 years)

In the short term, harvests are still largely in existing older forests (predominantly higher elevation mountain hemlock), with approximately 20% of harvests in this period coming from second growth stands (CFD). Normally, factors which influence the availability of this timber would strongly affect the short term forecast. However, this is somewhat tempered in the Fraser TSA due to the need to reserve some older timber to deal with supply problems later in the forecast. This "reserve" gives the TSA some resiliency with respect to such factors. Nevertheless, the TSA exhibits its strongest downward response to a 10% decrease in the area not allowed below green-up in the general management zone, from 30% down to 20%. In this case the starting harvest level must be decreased immediately by 17%. Increasing partial harvesting or commercial thinning activities would guard against such a drop, should more stringent requirements come into effect. There is still a pronounced effect if existing unmanaged stand volumes are overestimated 10%, but this is less than in previous analysis - partly due to the significantly reduced harvest levels.

Most mature timber on which harvesting will depend in the short term is on poor growing sites. As a consequence, more area must be harvested due to low volumes/ha.

Reclassification of VQO's has resulted in a significant change in sensitivity to forest cover constraints in these areas. In the previous analysis, timber supply exhibited a high sensitivity to changes in adjacency or green-up. In contrast, in the 1998 analysis, harvesting opportunities have been increased in these areas by accounting for factors such as improved harvesting design, the differing ability of areas to "absorb" the visual effects of harvesting, and the level of recreational use in an area (analysis2, 53).

If harvesting does not occur in deciduous stands, short term harvests must be reduced 2%.

Mid Term (21 - 110 years)

Given the current structure and configuration of the timber supply, a mid term shortfall below the long term harvest level is unavoidable. However, the mid term level exhibits a relatively high degree of stability.

The mid term is most sensitive to changes in existing unmanaged stand volumes. Were these volumes to still prove overestimated by 10%, a 10% lower mid term supply would result.

A 10% increase in unmanaged existing stand volume estimates increases mid term harvests by about 10%. The abundance of existing stands suitable for fertilization presents an opportunity to increase supplies during this period. In hindsight, many areas spaced in earlier decades were spaced to densities too low to allow for commercial thinning activities in the early part of this time period. The higher spacing densities of more recent spacing will enable commercial thinning in the later part of this time frame.

In the analysis, a 20% increase in managed stand volume estimates results in a shortening of the mid term period by 3 decades and a dramatic 41% rise in a single decade (a proverbial "wall of wood"). Clearly, if a 20% gain can be realized, there is a significant opportunity to bring the harvest of some of these second growth stands forward in time through spacing and commercial thinning practices to help mitigate the mid term shortfall.

If harvesting does not occur in deciduous stands, mid term harvests must be reduced 4%, largely because the modeled conversion of ¾'s of these stands to Douglas-fir would not occur.

Long Term (110 + years)

The long term is most sensitive to changes in the yields of regenerated stands. This sensitivity is virtually on a 1:1 ratio; for every 1% increase or decrease in regenerated stand volumes there is a corresponding 1% increase or decrease in the LTHL.

If harvesting or non-harvest stand conversion does not occur in deciduous stands, long term harvests must be reduced 4%, largely because the modeled conversion of ¾'s of these stands to Douglas-fir would not occur.

Future

The future of this timber supply area now appears relatively stable.

Incremental Silviculture History

Approximately 2 500 ha are harvested annually (analysis2, 25).

Treatment	TSR1 Status (1994)		Current Status (1998)
	Incorporated in Timber Supply Analysis	Not Incorporated in Timber Supply Analysis	Source: CFD[2]
◆Backlog	All NSR is assumed restocked within the first 10 years (analysis2, 104).		There is about 2 500 ha of backlog NSR, about 300 of which require planting.
◆Conversion	¾'s of the 10 000 ha of harvestable decid assumed converted to Fdc (analysis2, 51).		Approximately 80ha/yr. are currently harvested from this profile and there is little potential to harvest more annual volume here. Since 1990 there has been virtually no non-harvest stand conversion.
◆Commercial Thin			Little performance to date. Current market conditions are not conducive, and few stands have been of suitable age.
◆Space	Stands have had density control as follows (analysis2, 103): Species % spaced at ages 1-10 11-20 21-30 Fdc 100 100 100 Hw/Ba 100 100 cedar 100		An average of 1 250 ha/yr have been spaced over the last 10 years.

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[2] CRFD - Chilliwack Forest District

Treatment	TSR1 Status (1994)		Current Status (1998)
	Incorporated in Timber Supply Analysis	**Not Incorporated in Timber Supply Analysis**	Source: CFD[2]
	pine/larch 100 spruce 100 To reflect this management, these stands are assigned TIPSY yields.		
♦Prune			Approx. 500 ha/yr pruned from 1991 to 1997 inclusive.
♦Fertilize			Approx. 1 400 ha/yr fertilized from 1992 to 1996 inclusive. None in 1997.
♦Space/ Prune		Combinations not indicated.	Only spaced stands are pruned.
♦Space /Fertilize		"	Generally, only spaced stands are fertilized.
♦Space/ Prune/Fert		None indicated.	This is a common regime in this TSA.

Higher Level Goals and Objectives

This section documents higher level goals and objectives relevant to an incremental silviculture strategy for the TSA.

Provincial Goals

Fundamentally, government's goals can be characterized as:

- sustainable use;
- community stability; and
- a strong forest sector. (MoF, 1998a)

Provincial Objectives

Until provincial targets for timber quantity and quality are established, management unit strategies are to consider the following interim provincial strategic objectives (MoF, 1998a). Incremental silviculture strategies must also be in keeping with higher level plans under the Forest Practices Code.

Objective 1: Maintain current harvest levels as long as possible without creating disruptive shortfalls in future timber supply.

Objective 2: Create a long term timber supply capable of supporting a steady long term provincial harvest level similar to current levels.

Objective 3: Minimize the interim shortfall in provincial harvest anticipated before a steady long term timber supply is achieved.

Objective 4: Create a long term timber supply which will enable the timber quality profile of future harvests to be optimized in the context of stands, site productivity and funding available.

It is recognized that not every management unit has the same capability to contribute to these interim objectives. Further, it is recognized that the land base's to achieve these objectives is expected to outstrip current and projected funding levels. Their purpose is to provide general guidance to the application of available funds.

Regional Objectives

The objectives of the regional incremental silviculture strategy are to:

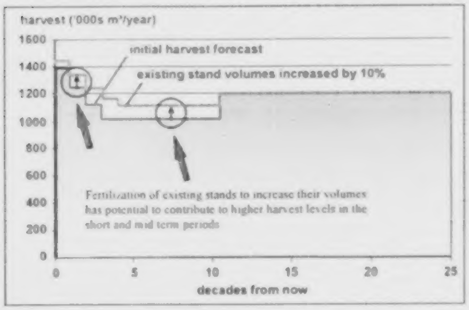
- Ensure a long term sustainable harvest which approximates the current harvest value and volume levels and that produces a diversified mix of products necessary to create and maintain sustainable forest employment.
- Balance treatments that enhance growth and yield such as fertilizing, spacing and forest health activities with those that increase the value of the wood such as pruning.
- Utilize incremental silviculture treatments to contribute to sustainable management of non-timber values at the landscape level. (MoF, 1998b)

Opportunities to Increase Timber Supply

The Fraser TSA has limited opportunity to increase short term timber supply but substantial opportunity in the mid and long terms. Fertilizing stands scheduled for harvest in the second decade offers some potential to increase the volumes harvested from them. Unfortunately, fertilization opportunities are limited because much of the harvesting in this time frame is in older, high-elevation hemlock stands. In the mid and long terms, a general strategy of increasing younger existing stand and managed stand volumes, together with making this volume available for earlier harvest through spacing and/or commercial thinning, will help mitigate anticipated reduced harvest levels in these periods.

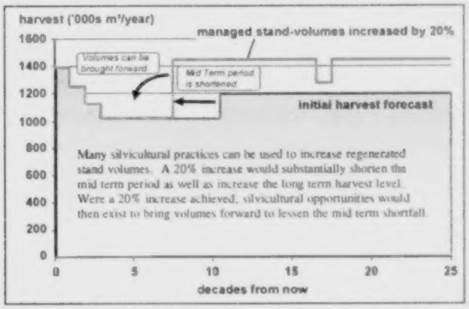
Opportunities Indicated Through TSR Sensitivity Analyses

TSA modelling in support of planning incremental silviculture has not yet been undertaken. In its absence, sensitivity analyses from the **TSR2** analysis report are the best source of information as to the opportunities for incremental silviculture to increase future timber supply. The following are selected sensitivity analsysis charts from the **TSR2** analysis report, to which opportunity information is added. Detailed analyses are required to confirm the indicated effects.



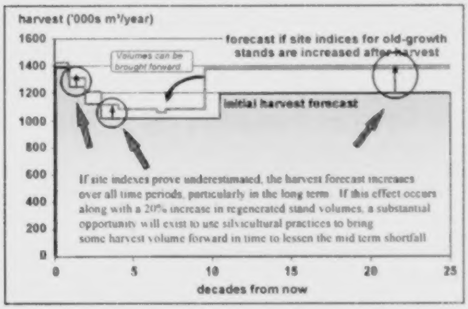
Fertilization of existing stands to increase their volumes has potential to contribute to higher harvest levels in the short and mid term periods

Figure 1. Changes in existing stand volumes, Fraser TSA



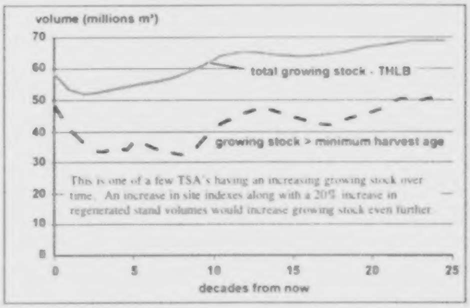
Many silvicultural practices can be used to increase regenerated stand volumes. A 20% increase would substantially shorten the mid term period as well as increase the long term harvest level. Were a 20% increase achieved, silvicultural opportunities would then exist to bring volumes forward to lessen the mid term shortfall.

Figure 2. Changes in regenerated stand volumes, Fraser TSA



If site indexes prove underestimated, the harvest forecast increases over all time periods, particularly in the long term. If this effect occurs along with a 20% increase in regenerated stand volumes, a substantial opportunity will exist to use silvicultural practices to bring some harvest volume forward in time to lessen the mid term shortfall

Figure 3. Changes in old growth site indexes, Fraser TSA



This is one of a few TSA's having an increasing growing stock over time. An increase in site indexes along with a 20% increase in regenerated stand volumes would increase growing stock even further.

Figure 4. Changes in growing stock, Fraser TSA

Preliminary Identification of Silviculture Opportunities

Information in the previous sections indicates the following silvicultural strategies may have potential to increase future timber supply. Each of the potential strategies was discussed in detail in the district working session, the results of which are recorded in "Potential Strategies by Response Time Frame," page 13, along with additional strategies that arose during the meeting. Strategies that are ultimately adopted are noted in "Silviculture Strategies," page 25.

Short Term (1 - 20 yrs)

ST 1: achieve green -up 2 years earlier through a variety of actions;

ST 2: fertilize all suitable stands scheduled for harvest in the 2nd decade to increase their volumes.

ST 3: overcome adjacency limitations by implementing partial harvesting/CT regimes in VQO zones.

ST 4: Complete site index and existing stand volume estimation studies.

Mid Term (21 - 160 yrs)

MT 1: fertilize all suitable existing stands scheduled for harvest 20 to 80 years from now to increase their volumes.

MT 2: increase the volume of regenerated stands by 20% through a variety of actions.

MT 3: move volume forward from the long term to the mid term by using CT/fertilization regimes commencing in about 50 years (has implications for today's spacing regimes).

Long Term (161+ yrs)

LT 1: increase the volume of regenerated stands by 20% as in MT 3 above.

Available Information Regarding Potential Treatments and Treatable Area

This section summarizes available information directly relevant to the potential treatments for the TSA.

Treatment	Comment/Potential Treatment Regime	Treatable Area
• Fertilization	Approximately ¼ of poor, all medium, and ¼ of good site Fdc stands are suitable for fertilization. To date, hemlock response to fertilization has proven variable. Increasing the fertilization program may present opportunities to: • increase long term timber supplies; • offset mid term falldown and reductions in long-term timber supply if forest cover constraints become more restricting in the future; • when combined with thinning or commercial thinning, improve volumes in stands to bring them to merchantable size earlier;	Approximately 40% of forests in the THLB have Fdc as the leading species. Approx. 65% of the THLB is in the desirable site class range for fert. Assuming the distribution of sites is equal across all species, approx. (.4 X .65 X 100) 26% of the THLB may be suitable for

Treatment	Comment/Potential Treatment Regime	Treatable Area
	- assist in meeting requirements for mature forest cover and for achieving old-growth characteristics earlier.	fertilization.
♦ Spacing	Spacing has been applied in younger existing stands, therefore managed stand yields are applied to these stands in the analysis. There is debate in professional circles regarding the benefits of spacing. However, actual stand measurements of trials at Shawnigan Lake, as opposed to modeled projections, are showing increases in mean diameters with little or no loss in total volume, 24 years after treatment.	
♦Conversion	1. Timber supply analysis assumes ¾'s of deciduous forest types will be converted over the long term to good site Fdc.	Harvestable area estimated to 1000ha. And other treatable areas estimated to be 3500 ha.
	2. Opportunity to rehabilitate brush areas not addressed in TSR, however there is relatively little area of brush, some of which no doubt contributes to wildlife habitat objectives.	943 ha brush
♦ Commercial Thinning	Little performance to date. Offers some potential to increase short term harvest levels by overcoming adjacency constraints. Offers mid-term potential when combined with an aggressive program to increase regenerated volumes.	Approx. 17% or 48 000 ha of forests in the THLB are 41-80 years old and may be candidates for commercial thinning. Fraser TSA is almost 100% roaded, giving a high degree of stand access.
♦ Backlog NSR	Current back log of 2060 ha. will be regenerated within first half of the first decade.	

Potential Strategies by Response Time Frame

Explanatory notes with respect to the following tables.

Column Number	Note
1	The response time frame is the period in which the anticipated result is expected, not the period in which actions must necessarily commence.
2	Strategy numbers correspond with the numbers recorded earlier in "Preliminary Identification of Silviculture Opportunities," page 12. Items followed by an asterisk (*) were added during the district working session.
3	Information is largely from a meeting of ministry personnel and forest licensees held

July 22 & 23, 1998, (the "district working session") combined with information presented earlier in this document.

4 Anticipated results are typically calculated using the timber supply response indicated by **TSR2** sensitivity analyses.

5 The harvest forecast for the short term uses the TSR2 initial harvest level (1.32 million m3/yr) as the starting level in the first decade, and this level less 15% for the 2nd decade (as per the TSR2 base case). Mid and long term harvest forecasts take the base case levels from the **TSR2** analysis report as their starting levels. The harvest forecast column was not thoroughly reviewed during the district meeting. *Results are largely conjecture and are meant to illustrate the potential of the strategies.*

In the TSR1 AAC rationale, the chief forester identified a number of potential downward influences on timber supply. Some of these are now incorporated in the TSR2 analysis. For those that are not, for the purposes of this strategy a status quo is assumed. Should any arise, the following strategies would serve to mitigate their effects rather than increase timber supply.

Response Time Frame	Potential Strategy/Action	Current Status	Anticipated Result	Harv Forecast (000 000s m3/yr)
◆ Short Term (1 - 20 yrs)	1. Achieve green-up 2 years earlier in the VQ zones by	1.	1. Timber supply analysis indicates a 2 yr earlier green-up yields an approximately 2% increase in harvest levels in the 2nd decade. Assume 2 yr earlier green-up can be achieved on ½ of areas (0.5 X 2%) ⇒ 1%.	1.32 1st dec. 1.12 2nd dec. 0.01 grn-up 0.01 fert 1.14 total
	(a) Planting large genetically improved stock;	(a) Approx. 90%+ of harvested areas are planted. All Fdc and S seed is "A" class. 1st gen seed has 3-5% yield gain, but effect on earlier green-up is unknown. Assume 1 yr.		
	(b) reducing regeneration delay 1 yr;*[3]	(b) The TSR2 analysis uses regen delays of 2-3 yrs for all species except for H/B poor site, which is 4 yrs. Licensees plant w/in 1 yr of harvest. MoF small business is longer due to unknowns of when sale holders will harvest. Not much room for improvement.		
	(c) brushing for growth enhancement;* and/or	(c) Brushing is currently for survival - unlikely to change w/in current funding structure, but could offer opportunity to reach green-up sooner. Assume 1 yr.		
	(d) spacing and fertilizing suitable regenerated stands in VQ zones.	(d) Spacing would have little effect on green up as trees are not in serious competition for much of this time. Some potential for fertilization at time of planting (not presently eligible for FRBC funding and not likely to be voluntarily undertaken unless necessary to achieve FG), as well as post FG / pre 5 m green-up (which can be funded by FRBC). See MT3. Assume 2 yr reduction in ages for 5 m greenup. The above indicates that, on the whole, a 2 yr earlier green-up is attainable.		
◆ ST 2	2. Fertilize all suitable stands scheduled for harvest in the 2nd decade.	2. Target stands are Douglas-fir ¼ P, all M and ¼ G site, currently aged 41-80 yrs and having suitable density. TS analysis predicts 20% of stands harvested in 2nd decade will be age class 3 & 4. A net down of suitable stands indicates **250 ha/yr could be fertilized**.	2. Approx 10% of stands planned for harvest are treatable (250 ha suitable/2500 avg area harvested). Assume 5% gain (0.1 X 0.05 =0.005%) ⇒ ≅ 1% overall.	

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[3] * Indicates potential strategies that were raised in the district working session.

Response Time Frame	Potential Strategy/Action	Current Status	Anticipated Result	Harv Forecast (000 000s m3/yr)
• ST 3	3. Implement partial harvesting regimes in VQO zones.	3. Limited partial harvesting currently taking place. Visual quality zones are being avoided but also current harvesting is in older high elevation stands which are not necessarily in the VQO zone. Partial harvesting will likely increase when there is no alternative to harvesting in areas limited by forest cover constraints. Effect of CT of current age class 3 & 4 is not possible to tell without modelling. If it is in stands slated for clearcutting that can't otherwise be logged due to forest cover constraints, then this would allow some short term harvest, capture mortality, and postpone the remaining stand volumes to the mid term. This would be good for the MT. On the other hand, if the stand is slated for harvest in the MT, CT would transfer volume from mid term to short term, making the mid term shortfall worse. In either event, post CT fertilization would help increase total volume recovered. **Program level estimated at 150 ha/yr.**	3. No TSR info available on which to make an estimate of possible increase. However, more partial harvesting would guard against a severe indicated decline (-17%) which would occur were current standards to be tightened by 10%. Modelling required.	
• ST 4	4. Complete site index estimation studies.	4. Studies are currently underway. The need for their completion is noted under "Summary of Information and Research Needs," page 26.	4. Not factored into this harvest forecast. Studies may prove neutral.	
• Mid Term (21 - 110 yrs)				
• MT 1	1. Repeat fertilize all suitable existing stands scheduled for harvest 20 to 80 years from now to: (a) raise existing stand volumes; and	1. (a) No fertilization at present because FRBC is not funding. Suitable stands are spaced Fdc, ∴ limited to stands aged 30 yrs or less. Approx. ¼ P, all M and ¼ G site show good response. About 45 000 ha meet this criteria. **A program of 3 000 ha/yr (of 5 000 available based on a 7 yr return cycle) in age classes 1 & 2 is required**. (See ST 2 re fertilization of age classes 3 & 4). (b) TSR 2 indicates little sensitivity to a 10% reduction in	1. (a) 45 000 ha constitutes 1/3 of the area harvested in the period 20 to 80 yrs from now (60 yrs X 2 500 ha/yr = 150 000 ha; 45/150 = 1/3). Assume 10% volume gain from repeat fert. (.33 X .1) ⇒ 3% increase. (b) N/A	

Response Time Frame	Potential Strategy/Action	Current Status	Anticipated Result	Harv Forecast (000 000s m3/yr)
	(b) lower min harvest ages by 10% (CT required prior to fert?).	minimum ages (1%/decade lower rate of decline, no change to base case shortfall level). Not a consideration.		
◆ MT 2	2. Increase regenerated stand volumes 20% by:	2.	2.	
	(a) reducing time to regeneration;	(a) See ST 1. It does not appear possible to reduce regen delays further.	(a) N/A	
	(b) using A class seed or better;	(b) 90%+ of harvested areas are planted. All Fdc and S seed is "A" class. Latest estimates of yield gains are (%):[4] Species / 1^{st} gen / 2^{nd} gen Doug-fir / 3-5 / 15 Hemlock / 3 / 20 Cedar / 3 / 10 Yield gains were not included in TSR 2.	(b) Provided 2^{nd} gen seed is produced in the near future a 10 - 20% increase can be anticipated. Conservative estimate ⇒ 10%	
	(c) using large planting stock;	(c) Basic silviculture item. Larger stock could be used but not likely in current economic conditions.	(c) No estimate available of the potential. Could potentially take 2 years off an 80 yr. rotation. 2/80 ⇒ 3%	
	(d) managing stocking to reduce voids 5%;	(d) Voids can be desirable for wildlife habitat. Guesstimate that intensive void management could be practiced on ½ of areas. Current free growing requirements will result in < 15% in voids, however amount is unknown as must also account for area not in the net area to be reforested (other than allowable roads & landings) and for voids that open up later on. The need for completion of surveys for voids is noted under "Summary of Information and Research Needs," page 26.	(d) If practiced on ½ of areas and voids reduced by 5% = .5 X .05 ⇒ 3%	
	(e) fertilizing regenerated stands where efficacy is proven.	(e) Licensees do not currently fertilize seedlings at time of planting. Not likely to fertilize prior to FG w/o funding assistance. Post FG could be done with FRBC funding, however no funding in 1997. Stands could fall under extension of the program under MT 1	(e) See MT 1. Ultimately 20% of the THLB could be repeat fertilized. Assume 10% gain (.2 X .1) ⇒ 3%. Unknown if effects are additive or	

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[4] Source: participants at district meeting.

Response Time Frame	Potential Strategy/Action	Current Status	Anticipated Result	Harv Forecast (000 000s m3/yr)
		after portions of existing age class 1 & 2 are harvested. Also overlaps with MT 3 (b) below.	perhaps compounded. Increased site productivity may further compound these effects. On the whole, a 20% increase appears possible to achieve. Sensitivity analysis indicates the effect of a 20% increase in regen stand volumes is to shorten the mid term period by 3 decades-ends at 80 vs 110 years.	
◆ MT 3	3. Bring forward volumes from the long term into the mid term to reduce the mid term shortfall by using spacing, CT &/or fertilizing regimes. Three possible regimes.	3. Other than as a partial harvesting method for overcoming adjacency limits (see ST 3) CT will be a future action commencing in a significant way about 40 years from now. Planning ahead for this has implications for current spacing and fertilization programs. Timberline study indicates substantial possibility.	3. Requires modelling. In general, need to have more precise information as to where species and age groups lie in the harvest queue. Assume volume brought forward = 10% of MT base case level.	1.02 base 0.03 Fert 0.10 br fwd 1.16 total end mid term shortfall at 80 yrs vs 110.
	(a) Existing or newly regenerated, unspaced, post-FG, Fdc and (i) suitable for CT; or (ii) not suitable for CT.	(a) (i) Regime would be space/ fert/ CT/ fert/ fert. Estimate 5% of annual area harvested over the next 20 yrs (125 - 150 ha/yr) suitable for this regime (netted down for cutting mostly in Hw and for suitable site classes). (ii) Regime would be space and fert. The total of the two regimes requires an **annual spacing program of 840 ha/yr**. See regime table for more detail. (b) Overlaps with MT1& MT 2.		
	(b) Fertilize suitable existing spaced Fdc stands 30 yrs or less in age. These stands unsuitable for CT.	(c) Requires an **annual spacing program of 420 ha for Hw and 140 ha for other species**. See regime table for more detail.		
	(c) Space all suitable post FG stands to bring forward harvest into mid term.			

Response Time Frame	Potential Strategy/Action	Current Status	Anticipated Result	Harv Forecast (000 000s m3/yr)
◆ MT 4	5. Conduct extensive fertilization trials in hemlock stands.	5. No fertilization currently taking place. Identify characteristics of hemlock stands that show a fertilization response so treatable area can be expanded. Noted under "Summary of Information and Research Needs," page 26.	5. N/A	
◆ Long Term (110 + yrs)	1. Increase regenerated stand volumes 20% by continuing MT 3.	1. See MT 3.	1. On the whole, a 20% increase appears possible to achieve. Sensitivity analysis indicates the effect of a 20% increase in regen stand volumes is to increase LTHL by 20%.	1.20 base 0.24 rgn vol 1.44 total 0.10 transfer to mid term over first 5 decades. decade vol 8 1.34 9 1.34 10 1.34 11 1.34 12 1.34 13 1.44 etc.
	2. Root rot management in Doug-fir??	2. (Not adequately discussed in district meeting.)	2. N/A	
	3. Plant 300 ha of backlog NSR and maintain 225 ha of backlog plantations through brushing.	3. This will eliminate all backlog.	3. N/A. Impacts already included in the TSR base case.	

Potential Harvest Forecast

Figure 5 graphs the potential harvest level that may be attained through implementation of the silvicultural strategies in the preceding tables. This forecast is highly speculative and requires confirmation through computer-based modeling and analysis. It also includes silvicultural activities that are not within the traditional scope of incremental silviculture. Modeling may indicate more precise timing, targeting and program levels associated with incremental silviculture activities than could be developed in this interim strategy.

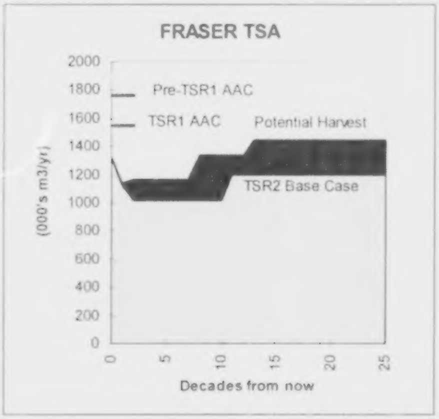

Figure 5. Potential harvest forecast, Fraser TSA

Opportunities to Improve Timber Quality

The effects of incremental silviculture on the future quality of the timber resource were not analyzed in either TSR1 or 2. Information in this section was gathered during the district working session.

Product Objectives

The following are simplified product objectives used for the purpose of this analysis. Comprehensive site specific product regimes can be found in the Chilliwack Forest District Enhanced Forest Resource Management Plan - Interim Approach.

Quality Class	Species	Characteristics
Premium Log:	Douglas-fir, clear, pruned	45+ cm min DBH, pruned, min 5 m log.

Douglas-fir, large timber	45+ cm min DBH, unpruned.
Hem/Bal/Spruce, large timber	45+ cm min DBH, unpruned.
Cedar, large timber	45+ cm min DBH, unpruned.

Sawlog: Minimum average stand DBH of 30 cm and min. stand vol. of 350 m3/ha. A large timber log is presently 55 - 60 cm, however, is expected to decrease to 45+ cm in the future.

Available Information Regarding Potential Treatments and Treatable Area

Treatment	Comment/ Potential Treatment Regimes	Treatable Area/
◆ Spacing		
◆ Commercial Thinning	Not current practice.	
◆ Pruning	Substantial amount of pruning done in TSA.	
◆ Space/ Prune		
◆ Space/ Prune/Fert		
◆ Other		

Potential Strategies by Response Time Frame

The following strategies have potential to increase timber quality. These were identified in the district working session. The response time frame is the period in which the anticipated result is expected, not the period in which actions must necessarily commence.

<table>
<tr><th>Response Time Frame</th><th>Potential Strategy/Action</th><th colspan="7">Discussion / Current Status</th><th>Anticipated Result</th><th>Premium Log Forecast</th></tr>
<tr><td>• Short Term (1 - 20 yrs)</td><td>None</td><td colspan="7">Short term harvests will come from existing very old stands which are not treatable to improve quality.</td><td>Quality profile of existing old growth will prevail. Assume this is equal to a recent coast-wide estimate of 15%.</td><td>15%?</td></tr>
<tr><td>• Mid Term (21 - 160 yrs)</td><td>Q1. Prune 250 ha/yr in 2 lifts to yield a 5 m log.</td><td colspan="7">1. Normal regime is to prune in 2 lifts to 5.5 m, Dfc good and medium site only. Requires a total program of 500 ha/yr - **250 1st lift and 250 2nd**. Currently, species and age class distributions limit treatable area; could go higher in the future.</td><td>1. 250 ha is approx 10% of annual area harvested. Assume 5 m log is 20% of tree vol. (.10 X .20) ⇒ 2%.</td><td>2% clear log content.</td></tr>
<tr><td></td><td rowspan="8">Q2. Manage for large dimension timber through spacing 1400 ha/yr and prepare stands for fertilization and pruning.</td><td colspan="7">2.
Avg. annual area harvested = 2 500 ha
% > 50 cm is from TIPSY stock table, rounded to nearest 5%.
Bottom 5m log = 20% of tree vol.
% large = (Area/2500) X (% > 45 cm) X (20% of tree vol.)</td><td rowspan="8">2. 8% premium log content, 5% from spaced stands and 3% from unspaced stands.</td><td rowspan="8">8% premium logs, ¼ of which will be clear (or 2% of total future vol.)</td></tr>
<tr><td></td><td>Species</td><td>SI</td><td>Cul Age</td><td>Space frm/to:</td><td>Area</td><td>% > 50cm</td><td>% large</td></tr>
<tr><td></td><td>Fdc</td><td>30</td><td>80</td><td>1200/700</td><td>840</td><td>50</td><td>3</td></tr>
<tr><td></td><td></td><td></td><td></td><td>unspaced</td><td>160</td><td>35</td><td>0</td></tr>
<tr><td></td><td>Hw/othr</td><td>27.5</td><td>100</td><td>4000/800</td><td>560</td><td>55</td><td>2</td></tr>
<tr><td></td><td></td><td></td><td></td><td>unspaced</td><td>940</td><td>40</td><td>3</td></tr>
<tr><td></td><td>Total</td><td></td><td></td><td></td><td>2500</td><td></td><td>8</td></tr>
<tr><td></td><td colspan="7"></td></tr>
<tr><td>• Long Term (161 + yrs)</td><td>As above.</td><td colspan="7">As above.</td><td>As above.</td><td>8%</td></tr>
</table>

Timber Quality Forecast

The foregoing analysis indicates the premium log content of harvests in the mid and long term will be lower than today's levels (8% forecast vs. current estimate of 15%). Also, a large timber log is presently 55 - 60 cm, however, is expected to decrease to 45+ cm in the future.

A higher level of pruning program than currently planned would serve to improve future timber quality, however, there is a current lack of treatable stands due to species and age distributions. Postponing harvest to ages that are past culmination age would increase the large dimension component of premium logs. However, this is unlikely, given the need to maintain sawlog volumes.

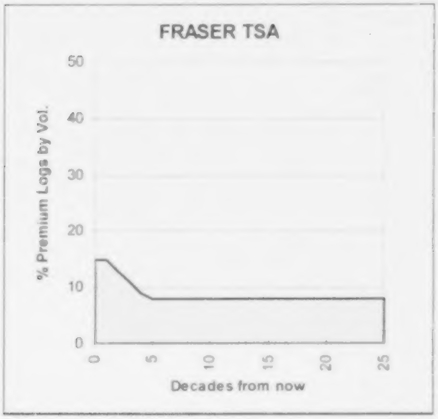

Figure 6. Potential Quality Forecast, Fraser TSA

This quality forecast is for large dimension premium logs. Approximately ¼ of these will be clear logs, or 2% of entire volume.

Incremental Silviculture Strategy

This section synthesizes the preceding background information and analysis into an incremental silviculture strategy for the TSA.

General Strategy

The Fraser TSA has limited ability to overcome forecast reductions in timber supply in the mid term. Long term timber supply, however, has the potential to be brought back to near current levels. Central to increasing future timber supply is the use of 2nd generation or better improved seedlings. Ensuring future timber quality is particularly important, given the indicated trend toward lower premium log harvest levels in the future. Spacing is needed to increase piece size, reduce future harvesting costs, and prepare stands for pruning. Pruning is needed to ensure at least a minimal level of premium clear logs in the future.

Working Targets

The preceding analysis indicates the following working targets are attainable. Figure 7 illustrates these.

WT 1 (Quantity): Manage mid-term timber supplies to yield a harvest of approximately 1.16 million m3/yr and long term supplies to yield 1.44 million m3/yr.

WT 2 (Quality): Manage regenerated stands to yield at least 8% premium logs by volume, with the majority of the remainder being of sawlog quality.

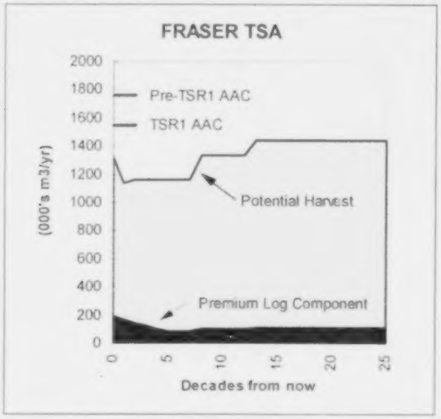

Figure 7. Combined Potential Quantity and Quality Harvest Forecasts, Fraser TSA

Log Product Objectives

The following are simplified product objectives used for the purpose of this analysis. Comprehensive site specific product regimes can be found in the Chilliwack Forest District Enhanced Forest Resource Management Plan - Interim Approach.

Quality Class	Species	Characteristics

Premium Log:	Douglas-fir, clear, pruned	45+ cm min DBH, pruned, min 5 m log.
	Douglas-fir, large timber	45+ cm min DBH, unpruned.
	Hem/Bal/Spruce, large timber	45+ cm min DBH, unpruned.
	Cedar, large timber	45+ cm min DBH, unpruned.
Sawlog:	Minimum average stand DBH of 30 cm and min. stand vol. of 350 m3/ha.	

A large timber log is presently 55 - 60 cm, however, is expected to decrease to 45+ cm in the future.

Silviculture Strategies

Strategies to Increase the *Quantity* of Future Timber Supply

The following strategies have identified potential to increase the quantity of the timber supply of the Fraser TSA. (Strategy numbers correspond with those recorded earlier.)

No.	Strategy
ST1	Achieve green-up 2 years earlier in VQ zones by: (a) planting large genetically improved stock; (c)brushing for growth enhancement; and (d) fertilizing regenerated stands to increase their growth. (Note: Some of these are pre free growing silviculture activities, not within the traditional scope of incremental silviculture. Where licensees can meet their free-growing obligations without undertaking such activities they are not likely to voluntarily undertake them due to the extra cost. In such cases, funding assistance would likely be necessary.)
ST2	Fertilize 250 ha/yr of Douglas-fir stands scheduled for harvest in the 2nd decade.
ST3	Implement partial harvesting / commercial thinning regimes in VQ zones, fertilizing 150 ha/yr post CT. (Effects require modelling.)
MT2	Repeat fertilize approximately 45 000 ha of Douglas-fir stands on an annual program of 3 000 ha/yr to raise mid term harvest volumes.
MT3	Increase regenerated stand volumes 20% by: (b) using (2nd generation) A class seed or better; (c) using large planting stock; (d) managing stocking to reduce voids 5%, and (e) fertilizing suitable regenerated stands (by extension of MT2). (Note: some of these are pre free growing silviculture activities. Licensees will not generally do them if free growing obligations can be achieved without it. (In such

cases, funding assistance would likely be necessary.)

MT5	Space 1 400 ha/yr of Douglas-fir, hemlock and other stands to either set up for commercial thinning or to bring forward harvest the harvest of stand from the long term into the mid term.
LT1	Increase regenerated stand volumes 20% by continuing MT3 above.
LT3	Plant 300 ha of backlog NSR and maintain XX ha of backlog plantations through brushing.

Tree improvement is critical to achievement of a number of the preceding strategies.

Strategies to Increase the *Quality* of Future Timber Supply

The following strategies have identified potential to increase the quality of the timber supply of the Fraser TSA.

No.	Strategy
Q1	Prune 250 ha/yr to 5.5 m in two lifts (requires and annual program of 500 ha) to produce 2% clear wood in long term harvests.
Q2	Space 1 400 ha/yr to increase average piece sizes and prepare stands for fertilization and pruning. (The spacing program under strategy MT5 above will contribute to this strategy. The dual objectives of increased piece size and earlier harvest may be conflicting. Modelling is required to determine the best balance.)

Strategies to Increase the *Quantity* or *Quality* of Future Habitat Supply

Upon completion of the Northern Spotted Owl Resource Management Plans there may be the opportunity to space 250 ha of age class 1 and 2 stands and fertilize 100 ha of age class 1 to 4 stands, as part of a regime to create spotted owl habitat. However, until the plans are finalized these are will not be the focus of investment related incremental forest management activities because of the uncertainty of future harvest potential.

Summary of Information and Research Needs

During the assessment process, the following needs for further information and research became apparent. The outcome of these have implications for an incremental silviculture strategy. Bracketed numbers refer to the strategy numbers under which the need is identified (see tables in "Potential Strategies by Response Time Frame," page 13.

1. Old growth site index estimation studies require completion. It is anticipated that site indexes may be underestimated. (MT1)
2. OAF 1 factor of 15% requires confirmation. Survey techniques are available. Requires statistical validity at the management unit level if to be used for AAC determination. (MT3)
3. Hemlock response to fertilization is variable. Were the causes for this determined there may be considerable potential for hemlock fertilization to improve the harvest forecast. (MT5)

Silviculture Regimes and Investment Priorities (refer to 2000 templates)

The following table indicates incremental silviculture regimes which are suitable to attaining the above working targets and strategies.

Regime Table, Fraser TSA, August 1998

Regimes	Strategy	Opportunity Area (Ha/Yr)	Timber Supply Effects			Quality	1st Nations	Fish	Wildlife	VQO	Jobs Days/ha	Direct Cost $/ha[1]	Priority Ranking				
			Short	Mid	Long								MoF	MoE	1st Nat	Ind	ALL
Backlog																	
1 Survey		8000	0	0	+	0	0	0	0	0	0.1	100	1	2	2	1	1
2 establishment	LT3	150	+	0	+	0	0	+	+	+	2	1500	1	2	2	1	
3 maintainance	LT3	260	0	0	+	0	-	-	-	0	0.3	500 (700)	1	6	6	1	
Stand conversion																	
4 surveys		500	0	0	+	0	-	-	-	-	0.1	100	1	7	7	1	5
5 Non-harvest treatment		200	0	0	+	0	-	-	-	-	5	1000 (1500)	1	7	7	1	
Spacing																	
6 surveys		3000	0	0	+	0	0	0	0	0	0.1	100	3	2	1	5	3
7 Fdc SI 23+ no CT	MT4, Q2	840	0	+	0	+	0	0	+	0	5	600 (1400)	4	2	1	5	
8 Fdc SI 23+ CT >1500 to 600-800	MT4, Q2		0	+	0	+	0	0	+	0	5	600 (1400)	3	2	1	5	
9 Hw Si 28+ >3000 to 700-750	MT4, Q2	420	0	+	0	+	0	0	+	0	5	1000 (1500)	7	4	1	6	
10 Hw Si 23-27 >3000 to 700-900	MT4, Q2		0	+	0	+	0	0	+	0	5	1000 (1600)	7	4	1	6	
11 Other	MT4, Q2	140	0	+	0	+	0	0	+	0	5	1000 (1700)	8	4	1	6	
Pruning																	
12 surveys		500	0	0	+	0	0	0	0	0	0.1	100	4	5	4	5	4
13 Fd leading 1st	Q1	250	0	0	0	++	0	0	0	0	8	1000 (1800)	4	5	4	5	
14 Fd leading 2nd	Q1	250	0	0	0	++	0	0	0	0	10	1500 (2100)	4	5	4	5	
Fertilization																	
Fd SI 23-30, moisture >1 <6																	
15		4000	0	0	+	0	0	0	0	0	0.1	100	2	3	5	2	2
16 Age class 1 & 2	T1, MT2,3,4, LT	3000	0	+	+	+	+/-	+/-	+/-	+	0.1	200 (300)	3	3	5	4	
17 Age class 3 & 4 post ct	ST3	150	0	+	+	+	+/-	+/-	+/-	+	0.1	200 (300)	2	3	5	3	
18 Age class 3 & 4 normal harvest	ST2	250	+	0	0	+	+/-	+/-	+/-	+	0.1	200 (300)	2	3	5	2	
Owl Habitat Enhancement																	
19 space age class 1 & 2	H1	250	0	+	+	0	0	0	+	+	5	600 (1000)	?	1	3	?	?
20 fertilize age class 1-4	H1	100	0	0	0	0	+/-	+/-	+	+	0.1	200 (3000)	?	1	3	?	

1 Direct costs are pre-NEWFO with NEWFO costs in parentheses

? Without owl RMP cannot rank against other priorities

Incremental Silviculture Program (refer to 2000 templates)

The following annualized program will contribute to achieving the above goals and strategies.

Program Table - Ha, Fraser TSA, August 1998

Year	Surveys*	Backlog Planting	Backlog Brushing	Backlog Conversion	Space Df leading	Space Hw leading	Prune 1st lift	Prune 2nd lift	Fertilize	Owl Habitat Space	Owl Habitat Fertilize
1	12,500	100	250	50	420	400	250	300	800	-	-
2	16,500	100	200	100	740	520	250	250	2,000	?	?
3	12,500	100	200	100	740	520	250	250	3,400	?	?
4	9,500	-	100	200	740	520	250	250	3,400	?	?
5	9,500	-	100	200	740	520	250	250	3,400	?	?
Subtot Yr 1 - 5	60,500	300	850	650	3,380	2,480	1,250	1,300	13,000	?	?
6 - 10	60,500	-	500	1,000	3,380	2,480	1,250	1,300	13,000	?	?
Total Yr 1 - 10	121,000	300	1,350	1,650	6,760	4,960	2,500	2,600	26,000	-	-
Unit cost ($/ha)	100	1,500	500	2,500	600	1,000	1,000	1500	200	600	200

* Includes prescription and layout

Program Table - $ 000s, Fraser TSA, August 1998

Year	Surveys	Backlog Planting	Backlog Brushing	Backlog Conversion	Space Df	Space Hw	Prune 1st lift	Prune 2nd lift	Fertilize	Owl Habitat Space	Owl Habitat Fertilize	Total
1	1,250	150	125	125	252	400	250	450	160	-	-	3,162
2	1,650	150	100	250	444	520	250	375	400	-	-	4,139
3	1,250	150	100	250	444	520	250	375	680	-	-	4,019
4	950	-	50	500	444	520	250	375	680	-	-	3,769
5	950	-	50	500	444	520	250	375	680	-	-	3,769
Subtot Yr 1 - 5	6,050	450	425	1,625	2,028	2,480	1,250	1,950	2,600	-	-	18,858
6 - 10	6,050	-	250	2,500	2,028	2,480	1,250	1,950	2,600	-	-	19,108
Total Yr 1 - 10	12,100	450	675	4,125	4,056	4,960	2,500	3,900	5,200	-	-	37,966

Job Outcomes

The following are the anticipated job outcomes associated with the preceding program, assuming the program is maintained into the future as necessary to achieve the working targets.

Program Job Outcomes, Fraser TSA, August 1998

Short term *employment associated with undertaking the silviculture activity, in person years*

Year	Surveys	Backlog Planting	Backlog Brushing	Backlog Conversion	Space Df	Space Hw	Prune 1st lift	Prune 2nd lift	Fertilize	Owl Habitat Space	Owl Habitat Fertilize	Total
1	7	1	0	1	12	11	11	17	0	-	-	60
2	7	1	0	1	12	11	11	17	0	-	-	60
3	7	1	0	1	12	11	11	17	0	-	-	60
4	7	1	0	1	12	11	11	17	0	-	-	60
5	7	1	0	1	12	11	11	17	0	-	-	60
Subtot Yr 1 - 5	35	6	2	7	58	56	56	83	2	-	-	302
6 - 10	34	-	1	28	94	69	56	72	7	-	-	353
Total Yr 1 - 10	68	5.6	2.9	34.7	152.2	124.4	111.1	155.6	9.4	-	-	655

Note: Assumes 180 days of silviculture work = 1 job (Source: Jobs and Timber Accord)

Long term *employment associated with improved quality and quantity of the timber resource*[1]

Decade	Harvest Increment ('000 m3)	Incremental Jobs per year by decade TSA[2]	Prov[3]	Total by decade TSA[2]	Prov[3]
1	-	-	-		
2	140	125	164	1,246	1,638
3	140	125	164	1,246	1,638
4	140	125	164	1,246	1,638
5	140	125	164	1,246	1,638
6	140	125	164	1,246	1,638
7	140	125	164	1,246	1,638
8	320	285	374	2,848	3,744
9	320	285	374	2,848	3,744
10	320	285	374	2,848	3,744
11	140	125	164	1,246	1,638
12	140	125	164	1,246	1,638
13	240	214	281	2,136	2,808
14	240	214	281	2,136	2,808
15	240	214	281	2,136	2,808
16	240	214	281	2,136	2,808
17	240	214	281	2,136	2,808
18	240	214	281	2,136	2,808
19	240	214	281	2,136	2,808
20	240	214	281	2,136	2,808
21	240	214	281	2,136	2,808
22	240	214	281	2,136	2,808
23	240	214	281	2,136	2,808
24	240	214	281	2,136	2,808
25	240	214	281	2,136	2,808
Total				46,280	60,840

Notes:

1. Assumes continuation of on the incremental silvicture program beyond the first 10 years, in accordance with the strategy. The total harvest increment is associated with all the silvicultural practices documented in the "Opportunities" section and is only partly attributable to spacing and fertilization practices. Some of the increase may be associated with pre-free growing silviculture that was not current practice at the time of TSR1.

2. Assumes 0.89 TSA level harvesting and prcessing jobs (PYs) per 1000 cubic metre (Source: Fraser TSR1 SEA)

3. Assumes 1.17 Provincial level harvesting and prcessing jobs (PYs) per 1000 cubic metre (Source: Fraser TSR1 SEA)

References

B.C. Ministry of Forests. 1991. *Regional Stand Tending Guidelines*. Vancouver Circular Letter VR91-558. Vancouver Forest Region, Nanaimo, British Columbia. 24p + Appendices.

________. 1993. *Fraser TSA: Timber Supply Analysis*. Timber Supply Branch, Victoria, British Columbia. 68p.

________. 1994. *Fraser Timber Supply Area: Timber Supply Review Discussion Paper*. Timber Supply Branch, Victoria, British Columbia. 12p.

________. 1996. *Forest Management Issues identified Through the AAC Determination Process*. Timber Supply Branch, Victoria, British Columbia. 331p.

________. 1997a. *Summary of Timber Supply Review Results 1992 to 1996*. Timber Supply Branch, Victoria, British Columbia. 20p.

________. 1997b. *Assumptions Included in Timber Supply Analyses: Timber Supply Areas & Tree Farm Licences*. Forest Practices Branch, Victoria, British Columbia. 115p.

________. 1997c. *Fraser Timber Supply Area: Timber Supply Review Data Package*. Timber Supply Branch, Victoria, British Columbia. 27p.

________. 1997d. *Fraser Timber Supply Area: Information Report*. Timber Supply Branch, Victoria, British Columbia. 11p.

________. 1997e. *Appendix "A" Chilliwack Forest District Stand Management Prescription Standards Guide* - March 7, 1997. Chilliwack Forest District, Rosedale, British Columbia. 5p.

________. 1997f. *Appendix B-1 District specific guidelines for juvenile spacing*. Chilliwack Forest District, Rosedale, British Columbia. 2p.

________. 1997g. *Appendix B-2 District specific guidelines for first lift pruning*. Chilliwack Forest District, Rosedale, British Columbia. 2p.

________. 1997h. *Appendix B-3 District specific guidelines for second lift pruning*. Chilliwack Forest District, Rosedale, British Columbia. 3p.

________. 1997i. *Appendix B-3 District specific guidelines for fertilization*. Chilliwack Forest District, Rosedale, British Columbia. 2p.

________. 1998a. *Guidance towards Participation in the Forest Renewal BC Planning Process and the Development of Resource Management Plans*. Victoria, British Columbia. 20p.

________. 1998b. *Vancouver Region Incremental Silviculture Objectives*. Handout. Vancouver Forest Region, Nanaimo, British Columbia. 1p.

________. 1998c. *Enhanced Forestry Resource Management Plan, Chilliwack Forest District*. Rough draft for discussion purposes. Chilliwack Forest District, Rosedale, British Columbia. 17p + Appendices.

________. 1998d. *Recommended treatment regimes for achieving forest product objectives in second growth stands for the Fraser TSA* - Draft 1. Chilliwack Forest District, Rosedale, British Columbia. 6p + Attachment.

McWilliams, Eleanor and Guillaume Therien, 1997. *Fertilization and Thinning Effects on a Douglas-fir Ecosystem at Shawnigan Lake: 24-year Growth Response*. FRDA Report

269, revised edition. Joint publication of the Canadian Forest Service and the British Columbia Ministry of Forests, Victoria, British Columbia. 44p.

Pedersen, L. 1995. *Fraser Timber Supply Area Rationale for Allowable Annual Cut (AAC) Determination.* Victoria, British Columbia. 28p + Attachments.

Timberline Forest Inventory Consultants Ltd. 1997. *Forest Level Benefits to Commercial Thinning and Fertilization.* Prepared for the B.C. Ministry of Forests, Forest Practices Branch, Victoria, British Columbia. 64p.

September 30, 1999

INCREMENTAL SILVICULTURE STRATEGY

A COMPONENT OF THE PORT MCNEILL FOREST DISTRICT

2000
RESOURCE MANAGEMENT PLAN

(for program update refer to 2000 activity template and file folder A10 PM rollup 00-04/RMPs text/RMP9900Text.doc)

Kingcome
Timber Supply Area

Incremental Silviculture Strategy (Interim)

-- Version 1.0 --

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British Columbia
Ministry of Forests

Funded By
Forest Renewal BC

August 31, 1998

STRATEGY AT A GLANCE

Working Targets

The Kingcome TSA has limited ability to overcome forecast reductions in both timber quantity and quality.

Quantity: Maintain short term harvests at near-current levels (TSR 1 AAC of approx. 1.4 million m3/yr) for as long as possible. Manage mid-term timber supplies to yield a harvest of approximately 1.0 million m3/yr and long term supplies to yield 1.3 million m3/yr.

Quality: Manage regenerated stands to yield at least 4% premium logs by volume, with the majority of the remainder being of sawlog quality.

Product Objectives

The following are product objectives at the log level for the Kingcome TSA.

Premium Log: Hemlock....... 60+ cm DBH, clear, min 5 m log, not less than 3-4 rings/cm on M/P sites and 2-3 rings/cm on G sites.
Cedar pole ... 45+ cm min DBH, min 20 m log, low taper, min 20 cm top.
Balsam......... 60+ cm DBH, clear, min 5 m log.

Sawlog: Minimum average stand DBH of 45 cm and min. stand vol. of 350 m3/ha.

Major Silvicultural Strategies

Quantity

(Some of the following are not within the traditional scope of incremental silviculture but are included here for completeness.)

1. Increase regenerated stand yields 20%, and achieve green-up 3 years earlier by:
   - reducing time to regeneration by 2 years by planting all areas;
   - using (2nd gen) A class seed or better (requires tree improvement for Balsam);
   - using large planting stock, and/or individual tree fertilizing at planting, and/or seedling protection;
   - brushing for growth enhancement; and
   - fertilizing 500 ha/yr of cedar-salal sites to achieve early crown closure.
2. Implement partial harvesting regimes in VQ zones.
3. Expand the timber harvesting land base by:
   - rehabilitating the remaining 400 ha of backlog NSR and brushing (conifer release) 3000 ha of backlog plantations;
   - draining low-site wet lands (10 ha trial); and
   - assessing opportunities for rehabilitating non-commercial alder stands back into conifer production.

Quality

1. One-lift prune (3.5 m) 150 ha/yr, two-lift prune (5.0 m) 150 ha over the next 2 years.
2. Manage selected stands to higher densities to yield pole-sized trees.
3. Space 200 ha/yr to increase avg. piece sizes and prepare stands for pruning and commercial thinning.

Incremental Silviculture Program (ha)

Year	Surveys	Backlog Prep/Plant	Backlog Brushing	Space	Prune - 1	Prune - 2	Fertilize	Drain	Total
1	2,000	100	400	200	150	75	500		3,425
2	2,000	100	400	200	150	75	500	10	3,435
3	2,000	100	400	200	150	-	500		3,350
4	2,000	100	400	200	150	-	500		3,350
5	2,000	-	400	200	150	-	500		3,250
Subtot Yr 1 - 5	10,000	400	2,000	1,000	750	150	2,500	10	16,810
6 - 10	10,000	-	1,000	1,000	750	-	2,500	-	15,250
Total Yr 1 - 10	20,000	400	3,000	2,000	1,500	150	5,000	10	32,060

Introduction

About the Interim Strategy

The terms of a service agreement between Forest Renewal BC (FRBC) and the BC Ministry of Forests (MoF) require the MoF to develop, and FRBC to fund, what is essentially an incremental silviculture strategy. This document is in fulfillment of this contractual requirement.

Incremental silviculture is part of a suite of strategies which together may influence the future quality and quantity of habitat and timber supply. This strategy document broadly analyzes the full range of potential silviculture activities in order to create a context for an incremental silviculture strategy.

An incremental silviculture strategy should not be confused with the allowable annual cut (AAC) determination process. AAC's are based on actual practice and current information at the time of the determination. This strategy, on the other hand, is about creating a future state of our forests. The degree to which the strategy proves appropriate and is achieved may influence future, but not necessarily present, AAC determinations.

This strategy is founded on readily available information and the knowledge of forestry professionals. It is intended as an interim strategy until a more in-depth analysis-based review is completed.

Methodology

This strategy was prepared through the following process:

1. Prior to the district working session, L. P. Atherton & Associates prepared a preliminary draft of this document, summarizing all available information relevant to a strategy and identifying opportunities to improve the future quantity and quality of timber supply.
2. A district working session was held July 29 & 30, 1998 in Port McNeill, attended by representatives of the MoF and forest licensees of the Kingcome TSA. Larry Atherton of L. P. Atherton & Associates and Doug Williams of Cortex Consultants Inc. led the session. Participants reviewed the potential opportunities identified in the draft document along with others that arose. The outcome of the session was a regime table, complete with priorities.
3. The consultants incorporated the results of the working session into the draft document and added forecasts of future harvest quantity and quality and of job outcomes.
4. After ministry review, the consultants submitted a completed strategy document to the MoF in electronic format as version 1.0. (The ministry will assign higher version numbers (e.g., 1.1, 1.2, etc.) as the strategy evolves and changes are made.)

Acknowledgments

The participation of representatives of the following organizations at the district working session is gratefully acknowledged.

Ministry of Forests:

- Port McNeill Forest District
- Vancouver Forest Region.

Forest licensees of the Kingcome TSA:

- TimberWest
- MacMillan Bloedel
- Western Forest Products
- Interfor
- Canfor

The project was managed by Mr. Larry Sigurdson of the Ministry of Forests, Vancouver Forest Region. Funding was provided by Forest Renewal BC.

Basic Data

After publication of the Analysis Report, the BCFS corrected a data error, increasing the timber harvesting land base by 1%. Information below is noted as corrected or uncorrected, as available.

Land Area

Description	Area (ha)	Area %
Total Area of TSA	1 126 100	100
Total Productive Crown Forest	519 700	46
Net Timber Harv. Land Base	177 900	16

Corrected THLB - rounded to nearest 100 ha.

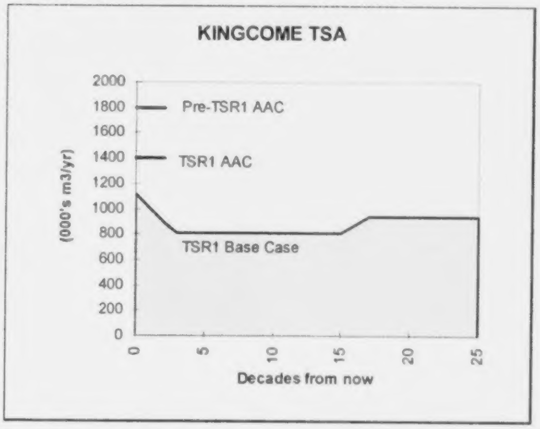
AAC

AAC Type	Pre-TSR	TSR1*	Change (%)
Conventional	1 798 270	1 244 000	-30.8
Deciduous	-	25 000	∞
Insect/Disease	-	-	
Marginal	-	130 000	∞
Total	1 798 270	1 399 000	-22.2

Woodlot AAC	Not included in conventional AAC	10 278	

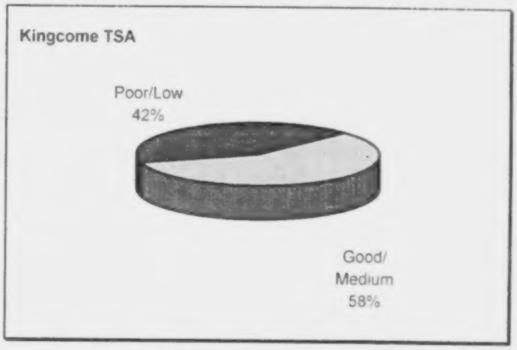
*effective Nov 1/96

Harvest Forecast



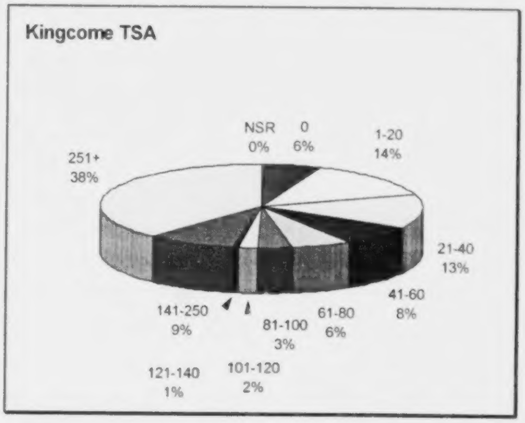
Corrected THLB

Site Class



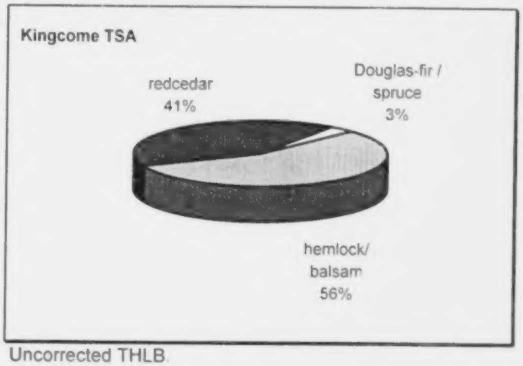
Uncorrected THLB

Age Class



Uncorrected THLB. Data scaled from chart in TS analysis report.

Tree Species



Uncorrected THLB.

Issues

Individual Issue Analysis

The following information is primarily from documentation produced under the first timber supply review, or TSR1. Sources are noted, with full references given on page 27. Only information which is relevant to an incremental silviculture strategy is recorded. Key statements are bolded.

Due to the discovery of a data error (the THLB was increased 1% following correction), a different base case was used in the AAC rationale from that in the TSR report. Some of the information below may therefore not precisely correspond with the corrected base case.

Abbreviations: AAC - allowable annual cut; THLB - timber harvesting land base; IHL - initial harvest level; LTHL - long term harvest level; CF - chief forester; TSR - timber supply review; VQO - visual quality objective.

◆ Fall Down	Base case is for the conventional coniferous component of the TSA (rationale, 44). "Current AAC" assumed to be 1 658 770 m3, after a 139 500 m3 deduction for allocated woodlots, deciduous stands, and stands with low productivity (total pre TSR AAC: 1 798 270 m3). Corrected base case **initial harvest level is 1 117 600 m3, 33% below current AAC,** declining thereafter at a rate of 10%/ decade to a mid term level of 811 600 m3 after 3 decades (**51% below current AAC, 27% below initial harvest level**), rising to a long term harvest level in decade 16 of 963 600 (**42% below current AAC, 14% below initial harvest level**). (rationale, 11)
◆ Age Class	Approximately **38% of THLB in stands aged 251+**, having implications for green-up and adjacency constraints. **Only 6% of THLB in stands aged 81-140**, resulting in mid term harvest levels below LTHL for an extended period. (TSR report)
◆ Forest Cover	*IRM Zone*: 59% of THLB. Base case requirement of at most 25% of THLB permitted to be < 3 m tall (4 pass system). Sensitivity test of ± 1 pass. Relaxation: (3 pass) Moderate sensitivity, increase of 8% in first 4 decades, otherwise not sensitive in mid or long term. **Other factors restrict the response.** Increase: (5 pass) **Highly sensitive in the short term**. Initial harvest level 28% below base case. Slightly below mid term base case. No effect long term. *Visual Quality Zones*: 41% of THLB. Base case requirement of at most 4% (high sensitive areas), 14% (medium) and 24% (low) to be < 5 m tall. Sensitivity test of ± 5%. (analysis, 42-43) Relaxation: (+5%) Moderately sensitive - increase of 8% in first 3 decades, **almost eliminates mid term shortfall**. Long term insensitive. Increase: (-5%) Highly sensitive - decrease of 10% in first 3 decades, 17% over mid long term, and 7% below long term. [Indications are that some VQO's will be re-classified prior to TSR2, and that while VQO's will be less restrictive than in TSR1 they will still be significant.[1]] *Green-up*: Base case uses avg of 14 yrs for 3 m green-up in IRM zone and 19 yrs for 5 m

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[1] Source: MoF Port McNeill Forest District. Hereafter noted in the text as (PMFD).

green-up in VQ zones.

Sensitivity test of ± 5 years.

Decrease: (- 5 yrs) Two alternatives indicate either higher short term volumes (+22% over 1st several decades) or higher mid term volumes (+9.5% over base case - **almost eliminates mid term shortfall)**, but not both, can result from lowering green up ages 5 years. Long term insensitive.

Increase: (+ 5 yrs) **Highly sensitive** - initial harvest level 41% below base case. Rises to base case in decade 13. LTHL 1.5% below base case.

Change to green up ages is more sensitive than changes to adjacency due to the large existing area already below green up age. **Lowering green up ages makes more adjacent area available to a greater extent than relaxing adjacency constraints.**

Site indexes are potentially underestimated by 4 m, which would result in a 3 yr reduction in green-up ages. A sensitivity test of - 3 years indicates the **initial harvest level could be 18% higher** than corrected base case if time to green-up is reduced 3 years. (rationale, 29) CF does not explicitly accept that site productivity has been underestimated and green-up periods over-estimated, but accepts the likelihood that this offsets other uncertain factors which may reduce short term timber supply (rationale, 46).

- Backlog NSR

  443 ha of backlog NSR. Assumed to be restocked within 3 - 5 years. CF considers this a minor over-estimation as will become either deciduous or will be understocked.

- Quality

  - 11 451 ha of non-merchantable forest types deducted from THLB (approx 10 000 ha deciduous and 1 450 low quality pine). Partition of 25 000 m3 for deciduous species.
  - 816 ha of brush deducted from THLB.
  - 25 478 ha of low productivity sites deducted from THLB. Partition of 130 000 m3 of AAC for low productivity sites.

- Older Forests

  Base case does not include a requirement for old growth or biodiversity as there are no specific provisions applied operationally in the TSA.

  Relaxation: N/A

  Increase: Sensitivity analysis indicates the impacts of biodiversity and riparian requirements could result in a 5.7% decrease in initial harvest levels from the corrected base case. [Sensitivity analysis on the uncorrected base case for the addition of a requirement for at least 10% of stands being older than 140 years indicates that all terms are sensitive. **Long term is 5% below base as it forces the harvesting of stands at ages past the point of maximum growth rates.]**

- Min. Harvest Ages

  Base case uses ages within 5% of culmination ages as min. harvest ages. Sensitivity analyses on uncorrected base case of ± 10 and ± 20 yrs. Slight sensitivity (± 2%) to 10 yr change only in decades 4 to 16.

  Decrease: (- 20 yrs) Short and long term insensitive. Mild sensitivity mid term, with harvest levels slightly higher than uncorrected base case (+2%).

  Increase: (+20 yrs) Short and long term insensitive. Mild sensitivity mid term, with harvest levels 5% lower than uncorrected base case.

  Effects are considerably greater when a 20 yr reduction in minimum harvest ages is combined with a 30% increase in regenerated stand volumes, as would be the result were site indexes increased by 4 m (see "Site Productivity").

- Silvicultural Systems

  Most of the THLB is currently managed under a clearcut harvesting system. Some harvesting is clearcut with reserves. CF notes potential to increase harvests in visually sensitive areas using alternative silvicultural systems.

- Regeneration Delay

Approximately 40% of harvested areas are regenerated naturally (rationale, 23). Regeneration delays in the TSR analysis were 3 years for Douglas-fir and spruce and 5-6 years for cedar, hemlock and balsam (analysis, 78). Those areas having a 6 yr delay were subsequently found to be regenerated in 5 years. A sensitivity analysis indicated **initial harvest level could be increased 1.2%** due to this change [likely due to a 1 yr reduction in green-up age], which CF took into consideration in AAC determination (rationale, 23).

Deer browse and Sitka spruce leader weevil are the most significant impediments to regeneration. However, losses are not of sufficient magnitude to cause CF to make an AAC adjustment. (rationale, 24)

Potential to reduce all delays to 3 years if all areas are planted (rationale, 23).

Sensitivity test of ± 3 yrs. (analysis, 39-40; uncorrected base case) All periods are sensitive.

Decrease: (- 3 yrs) **Very sensitive in the short term**, with harvest levels 12% above the base case for the 1st 3 decades. Moderate sensitivity mid term, with harvest levels 5% higher than base case. LTHL 2% higher.

Increase: (+3 yrs) Harvest levels 8% below base case for the 1st 3 decades. Mid and long terms 5% and 3% lower than base case, respectively.

- Site Productivity

Information from adjacent areas indicates site indexes may be underestimated by 4m. If site indexes are underestimated 4 m, estimates of min harvestable ages decrease by 20 yrs and regenerated stand volumes increase 30%. (rationale, 21) Sensitivity analysis indicates **this combination could increase mid and long term harvests by 11% and 29% respectively** (analysis, 38).

A site productivity increase of 4 m would also decrease green-up periods by 3 yrs, resulting in an 18% increase above the base case initial harvest level. (rationale, 21)

- Estimates of Timber Volumes

[All of the following is with respect to the uncorrected base case.]

VDYP - existing stands (analysis, 80). TIPSY - regenerated stands (analysis, 82).

Existing stand volumes: An inventory audit found inventory existing stand volumes to be overestimated by 11% for the TSA as a whole (rationale, 45). While the CF considers this not to be fully quantified, based on the sensitivity test below, **this indicates short and long term harvest level reductions below the base case of approximately 120 000 and 50 000 m3/yr respectively**.

Sensitivity test for ± 10% in volume. Highly sensitive to both in short and mid terms. Long term insensitive.

Increase: (+10%) **Highly sensitive.** Increases volumes in 1st several decades by 10% and over mid term by 8% (due to some harvesting of regenerated stands).

Decrease: (-10%) **Highly sensitive.** Initial volumes reduced 10% below base case for 1st 3 decades and 6% below for decades 4 - 16.

Regenerated stand volumes: OAF 1 - 15%, OAF 2 - 5% (analysis, 78).

Sensitivity tests for ± 10 and ± 25% in volume. Short term insensitive to either. Highly sensitive to both in long term.

Increase: (+10 or +25%) LTHL 10 or 25% higher than base case, starting to rise from mid term shortfall 150 years from now. 10% change insensitive in mid term but **25% change gives a 7% increase in this period**. [Both scenarios exacerbate the mid-term dip below LTHL in base case- potential for commercial thinning?]

Decrease: (-10 or -25%) LTHL 10 or 25% lower than base case. 10% change insensitive in mid term but 25% change gives a 13% decrease below base case starting at decade 8.

Summary of Issues by Period

Short Term (1 - 20 yrs)

Short term harvest levels are highly sensitive to changes in green-up ages, and consequently to regeneration delay. Lowering green up ages makes more adjacent area available to a greater extent than relaxing adjacency constraints. This is because of the large existing area currently below green-up age.

An inventory audit found mature stand volumes to be overestimated by approximately 11%. Based on TSR sensitivity analysis results this can be expected to result in short term harvest levels in the order of 120 000 m3/yr less than the base case. However, the CF considers this to be offset by the possibility that green-up ages are overestimated (because site indexes are underestimated), which is an approximately equal upward influence on short term harvest levels.

Mid Term (21 - 160 yrs)

Only 6% of stands are aged 81 - 140 years, contributing to mid term harvest levels being below the LTHL for an extended period.

Relaxing adjacency requirements in the visual quality zones almost eliminates the base case mid term harvest shortfall, indicating the potential for partial harvesting or commercial thinning in these zones. Similarly, achieving green-up earlier through silviculture practices (effectively lowering green-up ages) can also eliminate the mid term shortfall.

As a result of inventory audit findings, mid term harvest levels are likely in the order of 50 000 m3 (6%) below the base case (see "Short Term"). Potentially offsetting this decrease is the finding that, if site indexes are underestimated 4 m, estimates of min harvestable ages decrease by 20 yrs and regenerated stand volumes increase 30%. Sensitivity analysis indicates these could result in an 11% increase in mid term harvest levels.

Long Term (161+ yrs)

Long term harvest levels are sensitive to the imposition of an older forest constraint (currently there isn't one) as it forces the harvest of stands beyond culmination age. A requirement for 10% of stands to be older than 140 years at all times results in a 5% reduction to the long term harvest level.

The long term is otherwise only sensitive to changes in regenerated stand volumes. A 1% increase or decrease in regenerated volumes results in a corresponding 1% increase or decrease to the LTHL. An increase in LTHL increases the difference between the mid term and long term harvest levels, thereby increasing the opportunity for silvicultural practices to bring forward volumes from the long term into the mid term.

Future

Future factors to be considered in determining an incremental silviculture program include:

- further reductions in land base resulting from implementation of the Vancouver Island Land Use Plan;
- the implementation of biodiversity and old growth plans.

Incremental Silviculture History

Approximately 2 000 ha are harvested annually.

Treatment	TSR1 Status (1994)		Current Status (1998)
	Incorporated in Timber Supply Analysis	Not Incorporated in Timber Supply Analysis	Source: PMFD
◆ Backlog	443 ha to be reforested in 5 years (rationale, 25).		About 400 ha require site preparation and planting. Expected to be completed in 3 years.
◆ Backlog Brushing /Conifer Release	400 ha/yr, on Vancouver Island and the mainland portions of the TSA.		
◆ Conversion	600 ha of alder overstory to be treated, releasing HC understory.		
◆ Commercial Thin		None.	None.
◆ Space		Approx. 5 000 ha spaced since 1980 (rationale, 26).	1998 level approx. 200 ha/yr.
◆ Prune		None indicated at time of TSR1.	1998 level approx. 100 ha/yr. Typical treatment is 1 lift prune to 2/3rd's of the trees in a spaced stand.
◆ Fertilize			None to date, but available stands could support a program of 500 ha/yr. Target is age class 1 & 2 cedar, poor to low site class.

Higher Level Goals and Objectives

This section documents higher level goals and objectives relevant to an incremental silviculture strategy for the TSA.

Provincial Goals

Fundamentally, government's goals can be characterized as:

- sustainable use;
- community stability; and
- a strong forest sector. (MoF, 1998a)

Provincial Objectives

Until provincial targets for timber quantity and quality are established, management unit strategies are to consider the following interim provincial strategic objectives (MoF, 1998a). Incremental silviculture strategies must also be in keeping with higher level plans under the Forest Practices Code.

Objective 1:	Maintain current harvest levels as long as possible without creating disruptive shortfalls in future timber supply.
Objective 2:	Create a long term timber supply capable of supporting a steady long term provincial harvest level similar to current levels.
Objective 3:	Minimize the interim shortfall in provincial harvest anticipated before a steady long term timber supply is achieved.
Objective 4:	Create a long term timber supply which will enable the timber quality profile of future harvests to be the same or better than the current profile.

It is recognized that not every management unit has the same capability to contribute to these interim objectives. Further, it is recognized that these objectives may not be attainable at current funding levels. Their purpose is to provide general guidance to the application of available funds.

Regional Objectives

The objectives of the regional incremental silviculture strategy are to:

- Ensure a long term sustainable harvest which approximates the current harvest value and volume levels and that produces a diversified mix of products necessary to create and maintain sustainable forest employment.
- Balance treatments that enhance growth and yield such as fertilizing, spacing and forest health activities with those that increase the value of the wood such as pruning.
- Utilize incremental silviculture treatments to contribute to sustainable management of non-timber values at the landscape level. (MoF, 1998b)

Opportunities to Increase Timber Supply

The Kingcome TSA occurs primarily on the mainland from Knight Inlet in the south to Cape Caution in the northwest and inland to Tweedsmuir Park. Smaller portions of the TSA are located at the northern tip of Vancouver Island and adjacent to Brooks Bay on the west coast of Vancouver Island. Steep terrain and lack of access limit the ability to offset projected timber supply reductions.

Opportunities Indicated Through TSR Sensitivity Analyses

TSA modelling in support of planning incremental silviculture has not yet been undertaken. In its absence, sensitivity analyses from the TSR1 analysis report are the best source of information as to the opportunities for incremental silviculture to increase future timber supply. The following are selected sensitivity analsysis charts from the TSR1 analysis report, to which opportunity information is added. Detailed analyses are required to confirm the indicated effects.

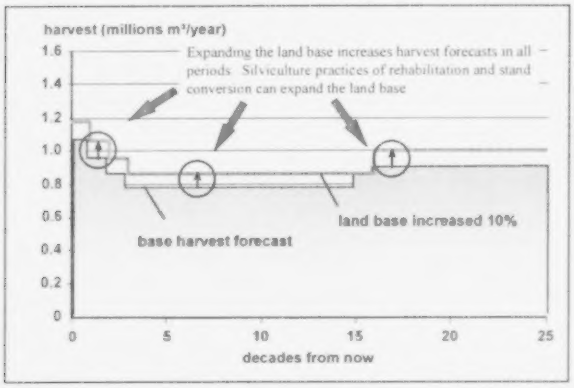

Figure 1. Changes in land base, Kingcome TSA

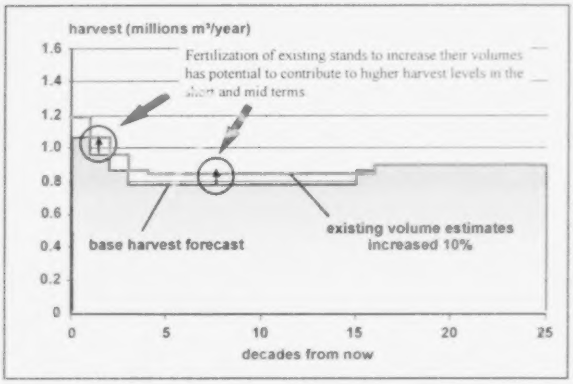

Figure 2. Changes in existing stand volumes, Kingcome TSA

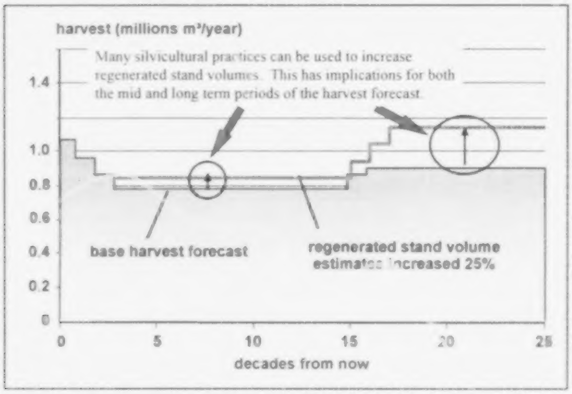

Figure 3. Changes in regenerated stand volumes, Kingcome TSA

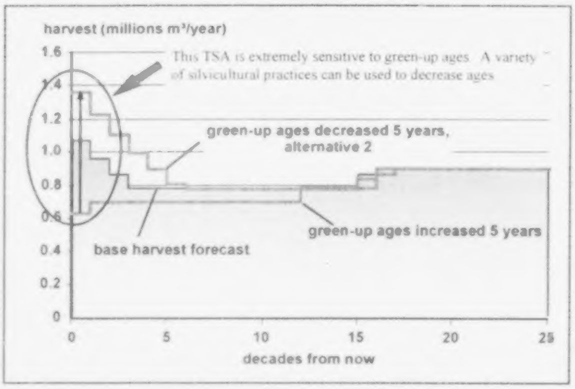

Figure 4. Changes in green-up ages, Kingcome TSA

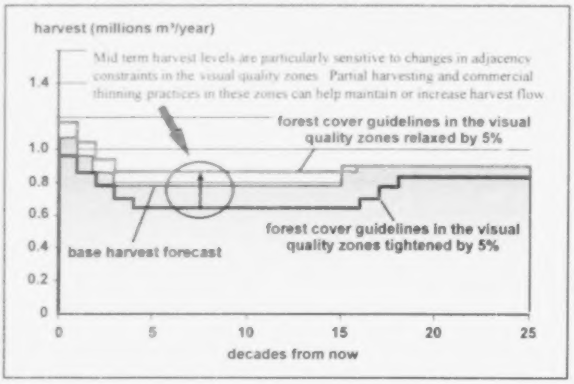

Figure 5. Changes in adjacency requirements, Kingcome TSA

Preliminary Identification of Silviculture Opportunities

Information in the previous sections indicates the following silvicultural strategies may have potential to increase future timber supply. Each of the potential strategies was discussed in detail in the district working session, the results of which are recorded in "Potential Strategies by Response Time Frame," page 11, along with additional strategies that arose during the meeting. Strategies that are ultimately adopted are noted in "Silviculture Strategies," page 21.

Short Term (1 - 20 yrs)

ST 1: complete site index and existing stand volume estimation studies.

ST 2: achieve green-up 3 years earlier through a variety of actions.

ST 3: overcome adjacency limitations by implementing partial harvesting/CT regimes in VQO zones.

Mid Term (21 - 160 yrs)

MT 1: reduce regeneration delay 2 yrs by planting all areas.

MT 2: continue partial harvesting/CT regimes as in ST 3.

MT 3: increase the volume of regenerated stands by 20% through a variety of actions.

MT 4: move volume forward from the long term to the mid term.

MT 5: conduct extensive fertilization trials in hemlock stands to be able to increase the volume of existing hemlock stands.

Long Term (161+ yrs)

LT 1: increase the volume of regenerated stands by 20% as in MT 3 above.

Available Information Regarding Potential Treatments and Treatable Area

This section summarizes available information directly relevant to the potential treatments for the TSA.

Treatment	Comment	Treatable Area
◆ Alternative Silvicultural Systems	Use of alternative systems in visually sensitive areas could increase availability of timber for harvesting. A recently issued forest licence located in lower Knight Inlet requires alternative harvesting and silvicultural systems. MacMillan Bloedel is planning a transition to alternative systems over the next 5 years.	41 % of TSA is visually sensitive.
◆ Spacing	Spacing has been applied in some younger existing stands.	
◆ Fertilization	Very little fertilization in the TSA. Variable response in H. Few Fdc stands. Cedar stands give response but many stands are remote and therefore costly to treat. A greater knowledge of growth and yield responses of hemlock to fertilization is needed (PMFD). Cw/Hw salal sites achieve crown closure (CC) at approximately 7 m, which shades out competing salal. Prior to CC, salal reduces site potential through nutrient competition.	Little treatable area amongst older stands. Significant early tree ht. growth found in SCHIRP trials in cedar - salal associations.

Treatment	Comment	Treatable Area
	Stands show significant response to a regime of fertilization at time of planting, plus 1 or 2 more applications to achieve early CC. 90%+ of Cw sites are planted.	
◆ Commercial Thinning	None to date. CF expects district staff to analyze potential for CT and, if feasible, to implement a CT strategy. (rationale, 27) Approx. 17% of forests in the THLB are 30 to 80 years old and may be candidates for commercial thinning. 10 400 ha of H stands 40 -60 years old. Steep terrain and lack of access limits availability. (rationale, 26-27)	About 10 000 ha of suitably aged stands are located on the mainland. Of these, 3 000 ha are considered accessible (PMFD).
◆ Backlog NSR	All backlog scheduled to be restocked in next 4 years. No additional opportunity.	0

Potential Strategies by Response Time Frame

Explanatory notes with respect to the following tables.

Column Number	Note
1	The response time frame is the period in which the anticipated result is expected, not the period in which actions must necessarily commence.
2	Strategy numbers correspond with the numbers recorded earlier in "Preliminary Identification of Silviculture Opportunities," page 10. Items followed by an asterisk (*) were added during the district working session.
3	Information is largely from a meeting of ministry personnel and forest licensees held July 29 & 30, 1998, (the "district working session") combined with information presented earlier in this document.
4	Anticipated results are typically calculated using the timber supply response indicated by TSR1 sensitivity analyses.
5	The harvest forecast for the short term uses the TSR1 AAC as the starting level in the first decade, and the TSR1 AAC less 10% for the 2nd decade (as per the base case). Mid and long term harvest forecasts take the corrected base case levels from TSR1 as the starting levels, adjusted upwards by 10% to recognize the partitioned AAC for low productivity sites and associated timber harvesting land base increase (see rationale, 17). The harvest forecast column was not thoroughly reviewed during the district meeting. *Results are largely conjecture and are meant to illustrate the potential of the strategies.*

In the AAC rationale, the chief forester identified a number of potential downward influences on timber supply. For the purposes of this strategy, however, a status quo is assumed with respect to these. Should any arise, the following strategies would serve to mitigate their effects rather than increase timber supply.

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	
◆ Short Term (1 - 20 yrs)	1. Complete site index & existing stand volume estimation studies.	1. The need for completion of these studies is noted under "Summary of Information and Research Needs," page 22.	1. N/A - results of the two studies may be largely offsetting.	1.40 1st dec.
	2. Achieve green-up 3 years earlier in VQ zones by:	2. Green-up is a policy issue and requirements are subject to change. The best opportunities to achieve earlier green-up are pre-free growing. TSR1 ages to reach specified tree heights. Species FG 3M 5M Cw 7-8 14 20 H/B 5-8 5-8 10-12 Overall, approx. 60% + of harvested areas are currently planted (Cw, Hw, Ba, minor Fdc). Natural regeneration is common on N to NE aspect Hw/Ba sites.	2. TSR1 indicates a 3 yr earlier green-up yields an approximately 18% increase in harvest levels in the 1st decade. Assume 3 yr earlier green-up achieved on ½ of areas (0.5 X 18% => 9%) (or 1.26 X .09 = .11).	1.26 2nd dec. 0.11 grn-up 0.03 prt harv 1.40 total
	(a) planting large genetically improved stock;	2.(a) Planting larger stock is a basic silv matter - not likely to change w/o funding assistance. Genetically improved stock will reach green-up sooner than stock from "wild" seed, although gain in years is not known. See MT3 re yield gains. All Cw and Hw seed is "A" class. No Ba available.		
	(b) increasing proportion of area planted & plant all areas sooner (to reduce regeneration delay 1-2 yrs);	2.(b) Reducing regen delay is a basic silv matter. TSR1 regen delay for Fdc & S is 3 yrs. Current practice is to plant in 2 yrs. Very high plantation success rate. (relatively little of these species in this TSA). TSR1 regen delay for Cw is 5 yrs. Current practice is to plant in 1-2 yrs. Very high plantation success rate. TSR1 regen delay for Hw natural is 5 yrs. Current practice is 3 yrs. If planted (not likely to change w/o funding assistance), would likely be 1-2 yrs.		
	(c) brush for growth enhancement; and/or	2.(c) Brushing is currently for survival - unlikely to change within current funding structure.		
	(d) fertilize suitable regenerated stands to increase their growth.	2.(d) Fertilizing Cw is an option. See discussions under MT 3 & MT 5 below.		
	3. Implement partial harvesting/CT regimes in VQO zones to increase timber supply from areas limited by adjacency constraints.	3. Some partial harvesting is planned. Will likely increase when there is no alternative to harvesting in areas limited by forest cover constraints. About 3 000 ha currently available on the mainland for CT, but no plans. During discussion of this topic in the district working session, regenerated stand yields for the TSA were questioned. There was a strong feeling TIPSY yields for Hw in particular were underestimated. Noted under "Summary of Information and Research Needs," page 22.	3. TSR1 indicates an 8% increase in ST harvests from relaxing requirement of area allowed to be not greened up by 5%. Assume achieved on ¼ of areas. (0.25 X 8% => 2%)	
	4. Increase the volume of some existing stand volumes through fertilization.*[2]	4. Hw response is variable. Studies required to confirm fertilization potential.	4. N/A. Studies required.	
	5. Expand the timber harvesting land base	5.(a) **Remaining 400 ha is mostly on the mainland portion of the TSA and will be**		

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[2] * - indicates potential strategies that were added during the district working session.

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	
	through:* (a) rehabilitating backlog NSR;	**stocked in next 4 yrs. About 3 000 ha of backlog brushing required** to release conifers on previously harvested areas. Impacts already included in TSR1 base case.	5. (a) Already in base case forecast.	
	(b) draining low site wet lands in the Nawhitti Plateau and Standby area; and	5.(b) About 40 000 ha classified as Cw 921 P/L. About 8 000 ha may be treatable at $3 000/ha. Requires 1 m ditches 30 m apart. Would require environmental and public review. **Consider experimental for now, with a 10 ha trial.**	(b) 8 000 ha of drainage =4.5% of THLB. Expect to change site quality from low to poor, ∴ possible 3% gain. Due to experimental nature and need for public review, this is not included in potential ST harv forecast.	
	(c) rehabilitating non-commercial alder stands.	5.(c) Considerable area in alder which is operable but not commercial. Would need to co-ordinate with alder licensee to determine treatable areas. Requires further study - **program not likely to start in next 5 yrs & then would take 15 yrs to complete.**	(c) Assume 2 000 ha may be rehabilitated to G site conifer = 2/178 THLB.= 1%. However, not likely completed within ST.	
◆ Mid Term (21 - 160 yrs)	1. Plant all areas to reduce regeneration delay by 2 years.	1. See discussion under ST 2 above. This is a basic silv. activity.	1. Potentially overlaps with gains from reducing time to green-up, but treated as an indication of mid term potential. Sensitivity analysis indicates a 5% gain with a 3 yr reduction, ∴ (2/3 X 5% ⇒ 3%.	0.81 base 0.08 THLB adj 0.89 Adj base + 0.03 rgn dlay 0.03 prt harv 0.05 rgn vol 0.02 fert Cw 0.01 inc THLB 1.03 total
	2. Overcome adjacency constraints in VQO zones by: (a) partial harvesting; and	2. (a) See discussion under ST 3 above.	2.(a) Sensitivity analysis indicates a 11.5% gain with a 5% relaxation in constraints. Assume achieved on ¼ of areas. (0.25 X 11.5% ⇒ 3%)	
	(b) setting up stands for CT through spacing.	(b) Some areas are currently being spaced to set up for CT. However, although 33% of THLB is in stands ≤ 40 years old, few of these meet the criteria of better site, high visibility and economically accessible. Only 2-3% of stands in this age group are considered suitable for CT and would support **a program of approx. 200 ha/yr**.	2.(b) Slight positive impact - not estimable.	See p 11 re THLB adjustment.
	3. Increase regenerated stand volumes 20%: (a) reducing time to regeneration; (b) using A class seed or better; (c) using large planting stock;	3. (a) & (c) - see discussions under ST 2 above. 3. (b) Approx. 60% + of harvested areas are planted. Fdc, Cw & Hw seed is "A" class. Latest estimates of yield gains are (%):[1] Species — 1st gen — 2nd gen Doug-fir (Fdc) — 3-5 — 15 Hemlock (Hw) — 3 — 20 Cedar (Cw) — 3 — 10 If areas now managed for natural regen Hw (40% of total area) were planted w	3. Sensitivity tests indicates a 25% increase in regenerated stand yields will increase MT harvests 7%. At least a 20% gain can be anticipated through implementation of the indicated actions ∴ 20/25 X 7% ⇒ 6%	

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[1] Source: participants at Fraser TSA working session.

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result
		genetically improved stock (20% gain), gain could be 40% X 20% => 8% overall;	
	(d) managing stocking to reduce voids 5%;	3. (d) Voids can be desirable for wildlife habitat. Current free growing requirements will result in < 15% in voids, however amount is unknown as must also account for area not in the net area to be reforested (other than allowable roads & landings) and for voids that open up later on. Given the difficult operating terrain of this area, 15% voids may be reasonable. Actual voids could be surveyed. Noted under "Summary of Information and Research Needs," page 22.	
	(e) individual tree fertilizing at time of planting.	3. (e) It is now common practice throughout the TSA to fertilize individual trees at time of planting on cedar / salal sites. Post FG is done with FRBC funding, however no funding in 1997. These treatments are done aerial / broadcast for efficiency and effectiveness. See discussions under MT 5 below.	
	4. Space all post FG stands to set up for CT to bring forward harvest from long term into mid term.	4. Currently not much opportunity. Bringing forward harvest from the LT is too far into the future to contemplate or assess now. Noted for future assessment in approx. 50 yrs.	4 N/A
	5. Fertilize existing (a) hemlock and (b) cedar stands to raise their volumes.	5. No fertilization currently taking place. (a) Identify characteristics of hemlock stands that show a fertilization response so treatable area can be expanded. The need for extensive fertilization trials in hemlock stands is noted as a requirement for further research under "Summary of Information and Research Needs," page 22.	5. (a) N/A
		5. (b) Cw shows an estimated 30% response from fertilizing to force early CC. Once Cw has achieved CC, no further fertilization is required. Two methods of estimating potential were explored. (Method 1) Existing stands between post-FG and age 20 = 8% of THLB. Cw = 40% of THLB. ∴ Cw between FG & 20 = 40% X 8% = 3.2% of THLB, or approx. 5 000 ha. 30% gain X 3.2% THLB = 1% gain overall. **Would require a fert. program of approx. 500 ha/yr for 5 yrs.** (Mthd 2) **Estimate up to 15 000 ha of existing Cw stands between post-FG and age 20.** 15 000 ha X 2 m3/ha/yr gain = 30 000 m3/yr or 4% gain overall.	5. (b) potential gains of between 1% and 4% demonstrated. Conservative estimate => 2%
	6. Expand the timber harvesting land base as per ST 5 above*	6. See discussions under ST 5 above.	6. See ST 5 above. Assume 1% increase in THLB. Sensitivity analysis indicates this results in a 1% increase in MT harvest levels => 1%. Effects may add or compound. Increased site productivity may further compound these effects. Age reduction factors may overlap, with the combined total being less than when separately analyzed.
• Long Term (161 + yrs)	1. Increase regenerated stand volumes 20% as per MT 3 above.	1. See discussion under MT 3 above.	1. See MT 3 above. => 20%
	2. Expand the timber harvesting land base as per ST 5 above*	2. See discussion under ST 5 above.	2. See discussion under ST 5 above. Assume 1% increase in THLB. Sensitivity analysis indicates this results in a 1% increase in MT harvest levels => 1%. Effects may add or compound. See note above.

0.96	base
0.10	THLB adj
1.06	Adj base
0.21	rgn vol
0.01	inc THLB
1.28	total

Potential Harvest Forecast

Figure 6 graphs the potential harvest level that may be attained through implementation of the silvicultural strategies in the preceding tables. This forecast is highly speculative and requires confirmation through computer-based modeling and analysis. It also includes silvicultural activities that are not within the traditional scope of incremental silviculture. Modeling may indicate more precise timing, targeting and program levels associated with incremental silviculture activities than could be developed in this interim strategy.

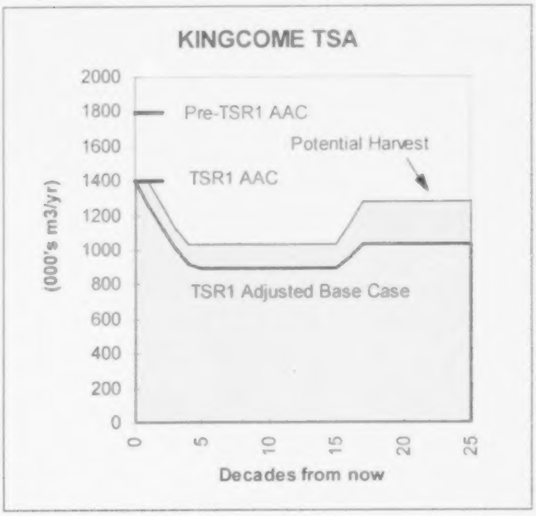

Figure 6. Potential harvest forecast, Kingcome TSA

TSR 1 base case adjusted as follows:

- initial harvest level set at TSR 1 AAC;
- next 4 decades decreased at 10%/decade, same rate as TSR 1 base case;
- mid-term trough & long term increased 10% in recognition of a 11% increase in THLB associated with adding low sites (not previously included in the base case). Because low site, a 10% factor was used rather than 11%.

Opportunities to Improve Timber Quality

The effects of incremental silviculture on the future quality of the timber resource were not analyzed in the timber supply review. Information in this section was gathered during the district working session.

Product Objectives

The following are product objectives at the log level for the Kingcome TSA.

Quality Class	Species	Characteristics
Premium Log:	Hemlock	60+ cm DBH, clear, min 5 m log, not less than 3-4 rings/cm on M/P sites and 2-3 rings/cm on G sites.
	Cedar pole	45+ cm min DBH, min 20 m log, low taper, min 20 cm top.
	Balsam	60+ cm DBH, clear, min 5 m log.
Sawlog:	Minimum average stand DBH of 45 cm and min. stand vol. of 350 m3/ha.	

Available Information Regarding Potential Treatments and Treatable Area

Treatment	Comment/ Potential Treatment Regimes	Treatable Area
◆ Spacing		
◆ Commercial Thinning		
◆ Pruning	Stands are spaced to 850 stems/ha and 2/3$^{rd's}$ of these are pruned (PMFD). Stands on G-M sites will reach 45 cm dbh in 85 yrs and are 45 m tall.	
◆ Space/ Prune		
◆ Space/ Prune/Fert		

Potential Strategies by Response Time Frame

The following strategies have potential to increase timber quality. These were identified in the district working session. The response time frame is the period in which the anticipated result is expected, not the period in which actions must necessarily commence.

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	
◆ Short Term (1 - 20 yrs)	None	Short term harvests will come from existing very old stands which are not treatable to improve quality.	Quality profile of existing old growth will prevail. Assume this is equal to a recent coast-wide estimate of 15%.	15%?
◆ Mid Term (21 - 160 yrs)	1. Prune 150 ha/yr to 3.5 m to yield a 5 m log and prune 150 ha to 5.0 m over the next 2 years.	1. Because of cost, a single pruning lift is normal practice. **Spacing is a pre-requisite to pruning.**	1. 150 ha is approx 8% of annual area harvested. However, only 2/3rds of stems are pruned. Assume 3.5 m log is 10% of tree vol. (.08 X 2/3 X .10) ⇒ 1%.	1. 1% clear 2. 3% poles Total: 4%
	2. Manage selected stands to higher densities to yield pole-sized trees.	2. TIPSY indicates that for Cw with an initial density of 4 000 st/ha, SI 30, at age 100, 28% of stems will be > 50 cm dbh.	2. No estimate available. If 1/3 of Cw leading species (14% of THLB) is higher density Cw and 25% of stand is poles ⇒ 3% of future harvests will be poles.	

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	
	3. Space 200 ha/yr to prepare stands for pruning and CT regimes.	3. Target stands are hemlock/balsam > 5 000 st/ha. The TSA has high harvesting and transportation costs. Spacing concentrates volume on fewer, larger logs, thus reducing future costs. Also brings harvest ages forward, enabling CT.	3. Sawlog oriented but pre-requisite to pruning. No premium log effect on its own.	
◆ Long Term (161 + yrs)	As above.	As above.	As above.	4%

Timber Quality Forecast

The foregoing analysis indicates the premium log content of harvests in the mid and long term will be substantially lower than today's levels (4% forecast vs. current estimate of 15%). A higher level of pruning program than currently planned would serve to improve future timber quality, however, there is a lack of treatable stands due to accessibility and cost.

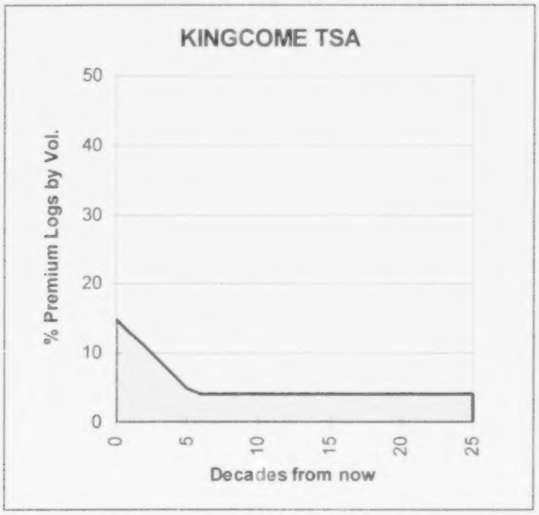

Figure 7. Potential Quality Forecast, Kingcome TSA

Incremental Silviculture Strategy

This section synthesizes the preceding background information and analysis into an incremental silviculture strategy for the TSA.

General Strategy

The Kingcome TSA has limited ability to overcome forecast reductions in timber supply in the mid term. Central to increasing future timber supply is the use of 2nd generation or better improved seedlings. Ensuring future timber quality is particularly important, given the indicated trend toward substantially lower premium log harvest levels in the future. Spacing is needed to increase piece size, reduce future harvesting costs, and prepare stands for pruning. Pruning is needed to ensure at least a minimal level of premium logs in the future.

Working Targets

The preceding analysis indicates the following working targets are attainable. Figure 8 illustrates these.

WT 1 (Quantity): Maintain short term harvests at near current levels (TSR 1 AAC of approx. 1.4 million m3/yr) for as long as possible. Manage mid-term timber supplies to yield a harvest of approximately 1.0 million m3/yr and long term supplies to yield 1.3 million m3/yr.

WT 2 (Quality): Manage regenerated stands to yield at least 4% premium logs by volume, with the majority of the remainder being of sawlog quality.

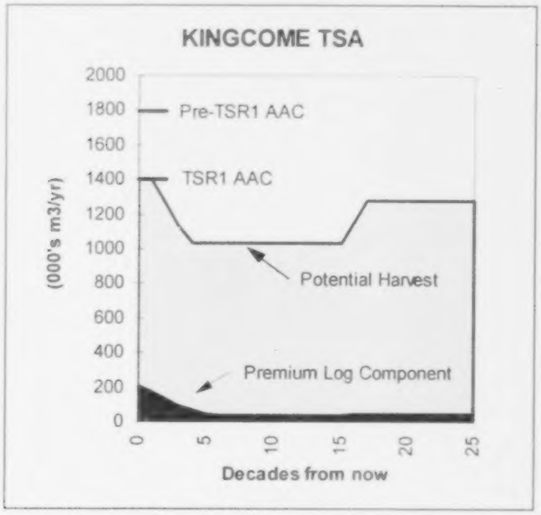

Figure 8. Combined Potential Quantity and Quality Harvest Forecasts, Kingcome TSA

Log Product Objectives

The following are product objectives at the log level for the Kingcome TSA.

Quality Class	Species	Characteristics
Premium Log:	Hemlock	60+ cm DBH, clear, min 5 m log, not less than 3-4 rings/cm on M/P sites and 2-3 rings/cm on G sites.
	Cedar pole	45+ cm min DBH, min 20 m log, low taper, min 20 cm top.
	Balsam	60+ cm DBH, clear, min 5 m log.
Sawlog:		Minimum average stand DBH of 45 cm and min. stand vol. of 350 m3/ha.

Silviculture Strategies

Strategies to Increase the *Quantity* of Future Timber Supply

The following strategies have identified potential to increase the quantity of the timber supply of the Kingcome TSA. (Strategy numbers correspond with those recorded earlier.)

No.	Strategy
ST2	Achieve green-up 3 years earlier in VQ zones by: (a) planting large genetically improved stock; (b) reducing regeneration delay by increasing the proportion of area planted and planting all areas sooner; (c) brushing for growth enchancement; and (d) fertilizing regenerated stands to increase their growth. (Note: The majority of these are pre free growing silviculture activities. Where licensees can meet their free-growing obligations without undertaking such activities they are not likely to voluntarily undertake them due to the extra cost. In such cases, funding assistance would likely be necessary.)
ST3	Implement partial harvesting / commercial thinning regimes in VQ zones.
MT1	Plant all areas to reduce regeneration delay by 2 years. (Note: This action is with respect to pre free-growing stands and is not within the traditional scope of incremental silviculture.)
MT2	Overcome adjacency constraints in VQO zones by partial harvesting and setting up stands for future commercial thinning through spacing. (Note: There are limited opportunities for commercial thinning in this TSA.)
MT3	Increase regenerated stand volumes 20% by: (a) reducing time to regeneration; (b) using (2^{nd} generation) A class seed or better; (c) using large planting stock; and (d) individual tree fertilization at time of planting and MT 5. (Note: some of these are pre free growing silviculture activities. Licensees have adopted most of these options, but they will not generally use higher cost larger stock if free growing obligations can be achieved without it. (In such cases, funding assistance would likely be necessary.)
MT5	Fertilizing 500 ha/yr of cedar-salal sites for early crown closure.
MT6	Expand the timber harvesting land base by: (a) rehabilitating the remaining 400 ha of backlog NSR and brushing (conifer release) 3000 ha of backlog plantations;

(b) draining low site wet lands in the Nawhitti Plateau (10 ha trial); and

(c) assessing opportunities for rehabilitating non-commercial alder stands.

LT1	Increase regenerated stand volumes 20% by continuing MT3 above.
LT2	Expand the timber harvesting land base by continuing MT 6 above.

Tree improvement is critical to achievement of a number of the preceding strategies.

Strategies to Increase the *Quality* of Future Timber Supply

The following strategies have identified potential to increase the quality of the timber supply of the Queen Charlotte TSA.

No.	**Strategy**
Q1	One-lift prune (3.5 m) 150 ha/yr, two-lift prune (5.0 m) 150 ha over the next 2 years.
Q2	Manage selected stands to higher densities to yield pole-sized trees.
Q3	Space 200 ha/yr to increase avg. piece sizes and prepare stands for pruning and commercial thinning.

Strategies to Increase the *Quantity* or *Quality* of Future Habitat Supply

(Note: The following strategy was developed in the district working session during discussion of timber quantity strategy MT7.)

The following strategy has identified potential to increase the quality or quantity of the habitat supply of the Kingcome TSA.

No.	**Strategy**
	No strategies proposed at this time.

Summary of Information and Research Needs

During the assessment process, the following needs for further information and research became apparent. The outcome of these have implications for an incremental silviculture strategy. Bracketed numbers refer to the strategy numbers under which the need is identified.

1. TIPSY yields for hemlock stands may be underestimated and require confirmation. (ST3)
2. OAF 1 factor of 15% requires confirmation. Survey techniques are available. Requires statistical validity at the management unit level if to be used for AAC determination. (MT3)
3. Old growth site index and existing stand volume estimation studies require completion. It is anticipated that site indexes are underestimated and existing stand volumes are overestimated and that these effects may prove offsetting to some extent. (ST1)

4. Hemlock response to fertilization is variable. Were the causes for this determined there may be considerable potential for hemlock fertilization to improve the harvest forecast. (ST2, ST4, MT5)
5. Trials are required to determine costs, efficacy and social acceptability of draining low-site forest land to increase productivity. (ST5, MT6, LT2)
6. The amount of area in alder stands which are not likely to be commercially harvested and therefore have potential for rehabilitation requires determination. (ST5, MT6, LT2)
7. Research is needed to determine the causes and extent of poor occlusion of branch stubs in pruned cedar which can result in hollow tunnels extending in the tree trunk for some distance past the end of the stub. (Q1)

Silviculture Regimes and Investment Priorities

The following table indicates incremental silviculture regimes which are suitable to attaining the above working targets and strategies.

Regime Table, Kingcome TSA, August 1998

	Regimes	Strategy	Opportunity Area (Ha/Yr)	Timber Supply Effects			Quality	Habitat	Direct Silv. Jobs Days/ha	Direct Cost	
				Short	Medium	Long					
	Backlog										
1	site prep & planting	ST5, MT6,LT2	100	+	+	+	0	0	2	3000	1
2	conifer release / brushing	ST5, MT6,LT2	400	+	+	+	0	0	3	800	1
	Spacing										
3	HemBal M-G <10m >5000 to 850 (set up for CT)	MT2, Q3	200	0	+	0	+	+/0	5	1500-1800	4
	Pruning (2/3 of spaced stands)										
4	3.5 m 1st lift	Q1	150	0	0	0	+	+	8	1800	5
5	5m prune	Q1	150 tot over 2 yrs	0	0	0	+	+	12	2200	5
	Fertilization										
6	Cw age 10-40 M,P	ST2, ST4 MT3, MT5, LT1	500	+	+	+	+	+	.1	600	2
	Expand THLB										
7	Drainage	ST5, MT6, LT2	10, study only*	+	+	+	0	-	1	3000	3
8	Alder rehabilitation	ST5, MT6, LT2	assessment								

* Experimental, 1 yr project only

Incremental Silviculture Program

The following annualized program will contribute to achieving the above goals and strategies.

Program Table - Hectares Treated, Kingcome TSA, August 1998

Year	Surveys	Backlog Prep/Plant	Backlog Brushing	Space	Prune - 1	Prune - 2	Fertilize	Drain	Total
1	2,000	100	400	200	150	75	500		3,425
2	2,000	100	400	200	150	75	500	10	3,435
3	2,000	100	400	200	150	-	500		3,350
4	2,000	100	400	200	150	-	500		3,350
5	2,000	-	400	200	150	-	500		3,250
Subtot Yr 1 - 5	10,000	400	2,000	1,000	750	150	2,500	10	16,810
6 - 10	10,000	-	1,000	1,000	750	-	2,500	-	15,250
Total Yr 1 - 10	20,000	400	3,000	2,000	1,500	150	5,000	10	32,060
Unit cost ($/ha)	150	3,000	800	1,750	1,800	2,200	600	3,000	

Program Table - $ 000s, Kingcome TSA, August 1998

Year	Surveys	Backlog Prep/Plant	Backlog Brushing	Space		Prune	Fertilize	Drain	Total
1	300	300	320	350	270	165	300	-	2,005
2	300	300	320	350	270	165	300	30	2,035
3	300	300	320	350	270	-	300	-	1,840
4	300	300	320	350	270	-	300	-	1,840
5	300	-	320	350	270	-	300	-	1,540
Subtot Yr 1 - 5	1,500	1,200	1,600	1,750	1,350	330	1,500	30	9,260
	1,500	-	800	1,750	1,350	-	1,500	-	6,900
Total Yr 1 - 10	3,000	1,200	2,400	3,500	2,700	330	3,000	30	16,160

Job Outcomes

The following are the anticipated job outcomes associated with the preceding program, assuming the program is maintained into the future as necessary to achieve the working targets.

Program Job Outcomes, Kingcome TSA, August 1998

Short term *employment associated with undertaking the silviculture activity, in person years*

Year	Surveys	Backlog Prep/Plant	Backlog Brushing	Space	Prune	Fertilize	Drain	Total
1	-	1.1	6.7	5.6	17.8	0.3	-	31
2	-	1.1	6.7	5.6	17.8	0.3	0.1	31
3	-	1.1	6.7	5.6	17.8	0.3	-	31
4	-	1.1	6.7	5.6	17.8	0.3	-	31
5	-	-	6.7	5.6	17.8	0.3	-	30
Subtot Yr 1 - 5	-	4	33	28	89	1	0	156
6 - 10	-	-	33	28	55.6	1	0	118
Total Yr 1 - 10	-	4	67	56	144	3	0	274

Note: Assumes 180 days of silviculture work = 1 job (Source: Jobs and Timber Accord)

Long term *employment associated with improved quality and quantity of the timber resource*[1]

Decade	Harvest Increment ('000 m3)	Incremental Jobs per year by decade TSA[2]	Prov[3]	Total by decade TSA	Prov
1	140	27	199	266	1,987
2	126	24	179	239	1,788
3	113	22	161	215	1,609
4	112	21	159	213	1,592
5	137	26	195	260	1,945
6	137	26	194	260	1,943
7	137	26	194	260	1,943
8	137	26	194	260	1,943
9	137	26	194	260	1,943
10	137	26	194	260	1,943
11	137	26	194	260	1,943
12	137	26	194	260	1,943
13	137	26	194	260	1,943
14	137	26	194	260	1,943
15	137	26	194	260	1,943
16	193	37	273	366	2,734
17	249	47	354	474	3,540
18	249	47	354	474	3,540
19	249	47	354	474	3,540
20	249	47	354	474	3,540
21	249	47	354	474	3,540
22	249	47	354	474	3,540
23	249	47	354	474	3,540
24	249	47	354	474	3,540
25	249	47	354	474	3,540
Total				8,422	62,941

Notes

1 Assumes continuation of on the incremental silvicIture program beyond the first 10 years, in accordance with the strategy. The total harvest increment is associated with all the silvicultural practices documented in the "Opportunities" section and is only partly attributable to spacing and fertilization practices. Some of the increase may be associated with pre-free growing silviculture that was not current practice at the time of TSR1.

2 Assumes 0.19 TSA level harvesting and processing jobs (PYs) per 1000 cubic metre (Source: Kingcome SEA)

3 Assumes 1.42 Provincial level harvesting and processing jobs (PYs) per 1000 cubic metre (Source: Kingcome SEA)

References

B.C. Ministry of Forests. 1991. *Regional Stand Tending Guidelines*. Vancouver Circular Letter VR91-558. Vancouver Forest Region, Nanaimo, British Columbia. 24p + Appendices.

________. 1995a. *Kingcome TSA: Timber Supply Analysis*. Timber Supply Branch, Victoria, British Columbia. 84p.

________. 1995b. *Kingcome Timber Supply Area: Timber Supply Review Discussion Paper*. Timber Supply Branch, Victoria, British Columbia. 16p.

________. 1996. *Forest Management Issues identified Through the AAC Determination Process*. Timber Supply Branch, Victoria, British Columbia. 331p.

________. 1997a. *Summary of Timber Supply Review Results 1992 to 1996*. Timber Supply Branch, Victoria, British Columbia. 20p.

________. 1997b. *Assumptions Included in Timber Supply Analyses: Timber Supply Areas & Tree Farm Licences*. Forest Practices Branch, Victoria, British Columbia. 115p.

________. 1998a. *Guidance towards Participation in the Forest Renewal BC Planning Process and the Development of Resource Management Plans*. Victoria, British Columbia. 20p.

________. 1998b. *Vancouver Region Incremental Silviculture Objectives*. Handout. Vancouver Forest Region, Nanaimo, British Columbia. 1p.

McWilliams, Eleanor and Guillaume Therien, 1997. *Fertilization and Thinning Effects on a Douglas-fir Ecosystem at Shawnigan Lake: 24-year Growth Response*. FRDA Report 269, revised edition. Joint publication of the Canadian Forest Service and the British Columbia Ministry of Forests, Victoria, British Columbia. 44p.

Pedersen, L. 1996. *Kingcome Timber Supply Area Rationale for Allowable Annual Cut (AAC) Determination*. Victoria, British Columbia. 49p + Attachments.

Timberline Forest Inventory Consultants Ltd. 1997. *Forest Level Benefits to Commercial Thinning and Fertilization*. Prepared for the B.C. Ministry of Forests, Forest Practices Branch, Victoria, British Columbia. 64p.

September 30, 1999

INCREMENTAL SILVICULTURE STRATEGY

A COMPONENT OF THE MID COAST FOREST DISTRICT

2000
RESOURCE MANAGEMENT PLAN

(for program update refer to 2000 activity template)

Mid Coast
Timber Supply Area

Incremental Silviculture Strategy (Interim)

-- Version 1.0 --

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British Columbia
Ministry of Forests

Funded By
Forest Renewal BC

August 31, 1998

STRATEGY AT A GLANCE

General Strategy

The primary focus of this incremental silviculture strategy in the Mid Coast TSA is to improve the quantity and quality of timber supplies over the long term. Strategies towards this end are reducing green-up ages, increasing regenerated stand volumes, and spacing newly regenerated stands. Pruning of some stands will ensure at least a minimal supply of premium logs in the future.

Working Targets

Quantity: Manage mid-term timber supplies to yield a harvest of approximately 0.7 million m3/yr and long term supplies to yield 0.8 million m3/yr.

Quality: Manage regenerated stands to yield at least 4% premium logs by volume, with the majority of the remainder being of sawlog quality.

Product Objectives

The following are product objectives at the log level for the Mid Coast TSA.

Quality Class	Species	Characteristics
Premium Log:	Douglas-fir, clear, pruned	45 cm min DBH, pruned, min 5.5 m log.
	Hemlock, clear	45 cm min DBH, pruned, 3.5 - 5.5 m log.
	Cedar pole	45 cm min DBH, over 20 m long min 20 cm top, few knots.
	Sitka spruce	45 cm min DBH
Sawlog:	Minimum average stand DBH by species and site class as follows:	
	Cedar, G/M	56 cm
	Douglas-fir, P	40 cm
	Hemlock/Balsam, P	35 cm
	All other	45 cm

Major Silvicultural Strategies

Quantity

(Some of the following are not within the traditional scope of incremental silviculture but are included here for completeness.)

1. Achieve green-up 2 years earlier by planting second generation improved stock, fertilizing seedlings at the time of planting, and fertilizing 200 ha/yr of post free-growing cedar stands on the outer coast.
2. Brush or girdle 60 ha/yr of backlog plantations to ensure free growing status is achieved.
3. Increase regenerated stand volumes 15% through a variety of silvicultural actions (tree improvement is critical to success).
4. Space 500 ha/yr of Douglas-fir and hemlock-balsam stands to increase avg. piece sizes and prepare stands for pruning and commercial thinning.
5. Reduce minimum harvest ages and raise stand volumes by fertilizing 200 ha/yr of hemlock stands on the outer coast.

Quality

1. Produce 3% clear timber by volume by pruning 200 ha/yr to 3.5 m and 200 ha/yr to 5.5 m.

Habitat

Space 10 ha/yr to improve riparian habitat.

Incremental Silviculture Program

(ha)

Year	Surveys	Backlog Brush / Conifer Rel	Space	Prune	Fertilize	Total
1	2,500	60	510	400	400	3,870
2	2,500	60	510	400	400	3,870
3	2,000	60	510	400	400	3,370
4	1,500	60	510	400	400	2,870
5	1,500	60	510	400	400	2,870
Subtot Yr 1 - 5	10,000	300	2,550	2,000	2,000	16,850
6 - 10	7,500	-	2,550	2,000	2,000	14,050
Total Yr 1 - 10	17,500	300	5,100	4,000	4,000	30,900

Introduction

About the Interim Strategy

The terms of a service agreement between Forest Renewal BC (FRBC) and the BC Ministry of Forests (MoF) require the MoF to develop, and FRBC to fund, what is essentially an incremental silviculture strategy. This document is in fulfillment of this contractual requirement.

Incremental silviculture is part of a suite of strategies which together may influence the future quality and quantity of habitat and timber supply. This strategy document broadly analyzes the full potential range of silviculture activities in order to create a context for an incremental silviculture strategy.

An incremental silviculture strategy should not be confused with the allowable annual cut (AAC) determination process. AAC's are based on actual practice and current information at the time of the determination. This strategy, on the other hand, is about creating a future state of our forests. The degree to which the strategy proves appropriate and is achieved may influence future, but not necessarily present, AAC determinations.

This strategy is founded on readily available information and the knowledge of forestry professionals. It is intended as an interim strategy until a more in-depth analysis-based review is completed.

Methodology

This strategy was prepared through the following process:

1. Prior to the district working session, L. P. Atherton & Associates prepared a preliminary draft of this document, summarizing all available information relevant to a strategy and identifying opportunities to improve the future quantity and quality of timber supply.
2. A district working session was held August 5 & 6, 1998 in Campbell River, attended by representatives of the MoF and a forest licensee of the Mid Coast TSA. Larry Atherton of L. P. Atherton & Associates and Doug Williams of Cortex Consultants Inc. led the session. Participants reviewed the potential opportunities identified in the draft document along with others that arose. The outcome of the session was a regime table, complete with priorities.
3. The consultants incorporated the results of the working session into the draft document and added forecasts of future harvest quantity and quality and of job outcomes.
4. After ministry review, the consultants submitted a completed strategy document to the MoF in electronic format as version 1.0. (The ministry will assign higher version numbers (e.g., 1.1, 1.2, etc.) as the strategy evolves and changes are made.)

Acknowledgments

The participation of representatives of the following organizations at the district working session is gratefully acknowledged.

Ministry of Forests:

- Mid-Coast Forest District
- Vancouver Forest Region

Forest licensees of the Mid Coast TSA:

- Western Forest Products

The project was managed by Mr. Larry Sigurdson of the Ministry of Forests, Vancouver Forest Region. Funding was provided by Forest Renewal BC.

Basic Data

Note: Base case confined to the non-partitioned component (870 000 m3).

Land Area

Description	Area (ha)	Area %
Total Area of TSA	2 217 800	100
Total Productive Crown Forest	755 200	34
Net Timber Harv. Land Base	155 600	7

Source: TS analysis report - rounded to nearest 100 ha.

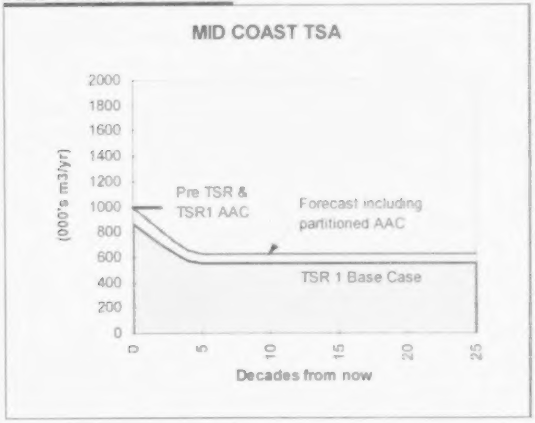
AAC

AAC Type	Pre-TSR	TSR1*	Change (%)
Conventional	1 000 000	870 000	-13.0
Deciduous	-	-	-
Insect/Disease	-	-	-
Marginal	-	130 000	∞
Total	1 000 000	1 000 000	0.0

Woodlot AAC

*effective Jan 1/95

Harvest Forecast



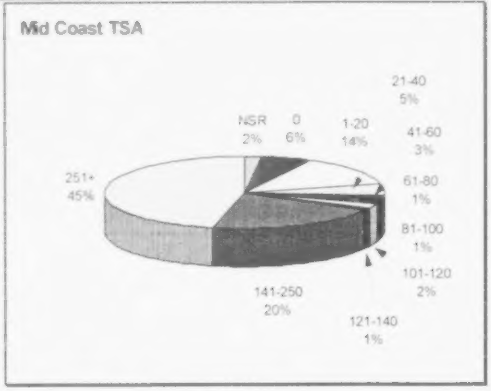
Harvest forecast with partitioned AAC reduced at same rate as the base case harvest forecast (10%/decade, 5% in decade 5) and then held constant after 50 years.

Site Class

Mid Coast TSA

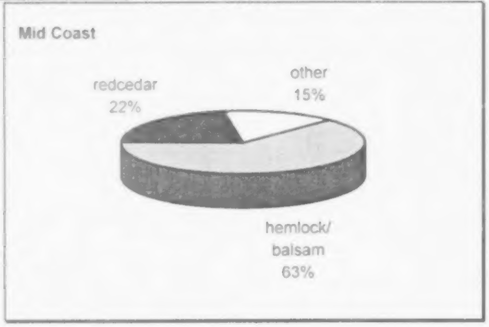
DATA NOT AVAILABLE

Age Class



Data scaled from chart in TS analysis report.

Tree Species



Issues

Individual Issue Analysis

The following information is primarily from documentation produced under the first timber supply review, or TSR1. Sources are noted, with full references given on page 30. Only information which is relevant to an incremental silviculture strategy is recorded. Key statements are bolded.

Abbreviations: AAC - allowable annual cut; THLB - timber harvesting land base; IHL - initial harvest level; LTHL - long term harvest level; CF - chief forester; TSR - timber supply review; CT - commercial thinning.

Species abbreviations: Fd - Douglas-fir; Fdc - coastal Douglas-fir; Hw - western hemlock; Cw - western redcedar; B or Ba - balsam fir.

Site class abbreviations: G - good; M - medium; P - poor.

◆ Harvest Forecast	**Significant forecast reduction of 37%** from the non-partitioned AAC of 870 000 m3/yr, commencing after the 1st decade at a rate of 10% per decade, to a long term harvest level of 550 000 m3/yr 50 years from now (start of decade 6). (analysis, 10)
◆ Age Class	**Very few stands between 20 and 200 years of age**. Approximately 63% of THLB in stands aged 200+. Consequently the harvest of existing old growth must taper off steadily in order to reach the LTHL and still avoid an interim shortfall of timber. By decade 9, almost all of the remaining old-growth timber in the THLB is part of the 7% of each forest type being maintained for wildlife and biodiversity and therefore is not available for harvesting. (analysis, 10)
◆ Forest Cover	*General Zone*: XX% of THLB. Base case requirement of at most 30% of THLB permitted to be < 3 m tall. Sensitivity test of ± 5%. (analysis, 23-24) Relaxation: (+5% to 35%) Insensitive. Base case forecast is not significantly constrained by cutblock adjacency. Increase: (-5% to 25%) Insensitive over all terms except for minor reduction below base case in decade 9. *Visual Quality Zones*: 15% of THLB in partial retention. Base case requirement of at most 5% (retention areas) and 10% (partial retention) to be < 6 m tall. (analysis, 24) Sensitivity test of ± 5% for partial retention only. (analysis, 24-25) Relaxation: (+5% to 15%) Slightly sensitive. No change in first decade, followed by a decline of 7%/decade (vs. 10% in base case), reaching a steady LTHL one decade later and 2% higher than base case. Increase: (-5% to 5%) Moderately sensitive - **decrease of 4% in first 5 decades, 5% thereafter**. *Green-up*: 15 yrs for 3m; 23 yrs for 6m. (analysis, 21,41) CF notes risks to achieving green-up if the approx. 30% of logged areas requiring brushing do not receive timely treatment (rationale, 15). Sensitivity test of ± 5 years. (analysis, 21-23) Relaxation: (- 5 yrs) First decade insensitive. Reduces the rate of decline from 10% (base case) to 7%/decade. **Increases mid term supply by 3 - 10%** and LTHL by 2%.

Reducing ages improves the availability of areas for timber harvesting over time.

Increase: (+ 5 yrs) Moderately sensitive - initial harvest level 6% below base case. Decreases mid term supply by approx. 5 - 8% (visual estimate from charts) and LTHL by 2.5%. A compounding factor is the large area of timber licences scheduled to revert to the THLB over the 1st 3 decades. These do not contribute to the AAC when logged, but are added to the area not greened-up when they revert to the TSA. (analysis, 23)

- Backlog NSR

3 367 ha of backlog NSR assumed to be restocked within 10 years. (rationale, 16)

- Quality

  - Approx. 6 000 ha of overstory alder scheduled for removal to release hemlock beneath by the year 2 000. Hemlock incorporated in analysis as 20 yr old regenerated stand. (rationale, 16-17)
  - 491 ha of brush deducted from THLB. (analysis, 4)
  - 29 897 ha of problem forest types sites deducted from THLB (all pine other than white pine leading species; all deciduous leading stands; all low productivity stands; and older red cedar, hemlock and balsam stands < ht class 4). (analysis, 41) Partition of 130 000 m3 of AAC for height class 3 stands on the outer coast, decadent hemlock-balsam stands, and stands in difficult terrain outside traditional operating areas (proportions left to the discretion of the district manager). (rationale, 29)

- Older Forests

Base case requirement for old growth or biodiversity of a minimum of 7% of each forest type (approx 10 000 ha) be older than 140 years at all times.

Sensitivity tests of complete removal of requirements and of increasing the requirement by 5% (from 7% to 12%) (analysis, 25-27).

Relaxation: (Old growth constraint removed; assumes requirements are met by other areas not in THLB) Initial harvest level maintained for 2 decades. **Very sensitive mid term**; harvests 10 - 14% above base case (visual estimate from charts). **LTHL increased 5%**.

Increase: (12 % older than 140) **Very sensitive, especially in the mid term**. Results in a 6% decrease in initial harvest level from the base case; 8-12% reduction over the next several decades and 5% reduction in LTHL.

- Min. Harvest Ages

Base case uses time it takes for species to reach min avg. harvestable DBH as min age (these are longer than culmination ages). Ages range from 60 for G/M site spruce to 150 years for poor-site Fdc. HB G/M age 105 at 45 cm dbh. HB P site age 110 at 35 cm dbh. Redcedar G/M site 90 yrs at 56 cm, poor site ate 110 yrs at 45 cm. (analysis, 43).

Sensitivity analyses of ± 10 yrs. (analysis, 19-21)

Decrease: (- 10 yrs) Slightly sensitive. Initial harvest level maintained; declines thereafter by 8% (vs 10% in base case) to LTHL one decade later than base case. Long term insensitive.

Increase: (+10 yrs) **Very sensitive in short and mid term** with a reduction of 10% in first decade followed by steeper decline (12% vs 10%) to LTHL in 3rd decade (2 decades earlier than base case). Long term insensitive.

A sensitivity test linking min harvest ages to culmination of MAI was also done (25 yrs lower for G/M site HB, 10 yrs lower for all redcedar - analysis, 43), indicating **substantial harvest increases in mid term** (analysis, 21). However, as this does not represent current practice, CF accepted ages as used in base case. (rationale, 11)

- Silvicultural Systems

Most of the THLB is currently managed under a clearcut harvesting system. Alternative systems are planned for 10% of district SBFEP harvesting. **CF notes potential to increase harvests using alternative silvicultural systems** in areas otherwise unavailable because of

	forest cover constraints. (rationale, 16)
♦ Estimates of Timber Volumes	**VDYP used for both existing and regenerated stands**, except TIPSY used for good and medium site Fdc ≤ 20 yrs (analysis, 46). *Existing stand volumes*: No separate sensitivity test for existing stand volumes alone. Combined test of changing all yield estimates ± 10% indicates timber supply is highly sensitive in the short and mid terms to changes in existing stand volumes (when compared to sensitivity test for changes in regenerated stand volumes alone). (analysis, 28-29) *Regenerated stand volumes*: Sensitivity tests for ±20% in volume plus commensurate ± 10 year change in min harvest age. Short term insensitive to either. Highly sensitive to both in long term. (analysis, 27-28) Increase: (+20%) LTHL 20% higher than base case, starting to rise from mid term shortfall 80 years from now. [This creates a mid-term dip below LTHL - potential for commercial thinning?] Decrease: (-20%) LTHL 19% lower than base case. Short term insensitive. Anomaly of mid term being slightly above base unexplained [presumably related to longer step down to a lower LTHL].

Summary of Issues by Period

Short Term (1 to 20 years)

A preponderance of old-growth (65% aged 141+), coupled with a dearth of middle-aged stands (only 8% aged 41-140 years) creates a situation where large volumes of old growth must be reserved for a substantial length of time until stands currently aged 40 years or less, as well as regenerated stands, become available. While not sensitive to forest cover constraints, this large volume of older stands is highly sensitive to changes in older forest requirements and to an increase in minimum harvest ages. The short term is also sensitive to increases in the already substantial adjacency constraint in the partial retention visual quality zone, which covers 15% of the THLB. The base case constraint only allows 10% of the area to be less than 6m tall at any time.

Mid Term (21 to 50 years)

The mid term is characterized by tightening supplies of remaining old growth which are being held to cover the shortage of currently middle aged stands until regenerated stands become available. Consequently, the mid-term is the most sensitive of all periods. Decreasing green-up ages by 5 years increases mid term levels 3-10%. Removing the mature forest constraint significantly increases harvest levels by 10-14%. Conversely, increasing this constraint by 5% reduces harvest levels 8-12%. Reducing minimum harvest ages to match culmination ages results in substantial increases to mid term harvest levels.

Long Term (51+ years)

Long term harvests are principally sensitive to changes in regenerated stand volumes. A 1% increase or decrease in regenerated volumes results more or less in a corresponding 1% increase or decrease in LTHL's. The long term is also sensitive to changes in the mature forest constraint, increasing or decreasing harvest levels by 5% when the base case constraint is respectively removed or increased 5%.

Future

The timber supply review could not take into account the impact of the Forest Practices Code, as the changes had yet to be seen in practice. Implementation of the code is likely to have a downward effect on timber supplies.

The Central Coast land and resource management planning process is in its early stages. Among other things, this process will review the mapping and classification of visually sensitive areas. An increase in area classified as visually sensitive or more restrictive management requirements would also have a downward effect on timber supplies.

Incremental Silviculture History

Approximately 1 600 ha are harvested annually.

Treatment	TSR1 Status (1993)		Current Status (1998)
	Incorporated in Timber Supply Analysis	**Not Incorporated in Timber Supply Analysis**	Source: MCFD[1]
◆Backlog	3 367 ha of backlog NSR assumed to be restocked within 10 years. (rationale, 16)		There is now about 500 ha of backlog NSR in 7 areas. About half of this is treatable through conifer release and other half reclassified.
◆Conversion			
◆Commercial Thin		CF notes high transportation costs discourage CT. Lack of stands in appropriate age groups. (rationale, 17)	
◆Space			Planned spacing program: 1998 301 ha 1998 313 2000 71 Avg 300 ha/yr.
◆Prune			Every spaced stand is pruned. Program is often in support of social objective to create jobs. Planned pruning program: 1998 301 ha 1998 308 2000 203 Avg 300 ha/yr.

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[1] MCFD - Mid Coast Forest District

Treatment	TSR1 Status (1993)		Current Status (1998)
	Incorporated in Timber Supply Analysis	Not Incorporated in Timber Supply Analysis	Source: MCFD[1]
◆ Fertilize			300 ha fertilized in 1993. None since.

Higher Level Goals and Objectives

This section documents higher level goals and objectives relevant to an incremental silviculture strategy for the TSA.

Provincial Goals

Fundamentally, government's goals can be characterized as:

- sustainable use;
- community stability; and
- a strong forest sector. (MoF, 1998a)

Provincial Objectives

Until provincial targets for timber quantity and quality are established, management unit strategies are to consider the following interim provincial strategic objectives (MoF, 1998a). Incremental silviculture strategies must also be in keeping with higher level plans under the Forest Practices Code.

Objective 1: Maintain current harvest levels as long as possible without creating disruptive shortfalls in future timber supply.

Objective 2: Create a long term timber supply capable of supporting a steady long term provincial harvest level similar to current levels.

Objective 3: Minimize the interim shortfall in provincial harvest anticipated before a steady long term timber supply is achieved.

Objective 4: Create a long term timber supply which will enable the timber quality profile of future harvests to be the same or better than the current profile.

It is recognized that not every management unit has the same capability to contribute to these interim objectives. Further, it is recognized that these objectives may not be attainable at current funding levels. Their purpose is to provide general guidance to the application of available funds.

Regional Objectives

The objectives of the regional incremental silviculture strategy are to:

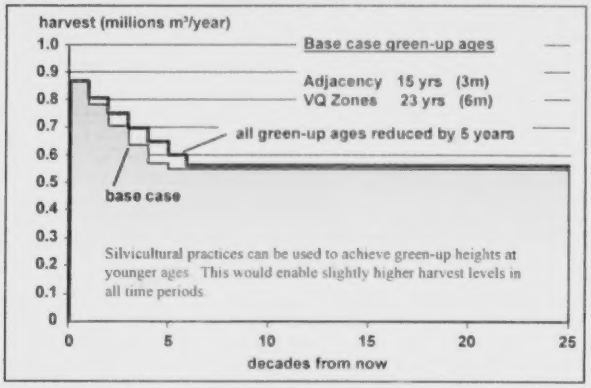
- Ensure a long term sustainable harvest which approximates the current harvest value and volume levels and that produces a diversified mix of products necessary to create and maintain sustainable forest employment.

- Balance treatments that enhance growth and yield such as fertilizing, spacing and forest health activities with those that increase the value of the wood such as pruning.
- Utilize incremental silviculture treatments to contribute to sustainable management of non-timber values at the landscape level. (MoF, 1998b)

Opportunities to Increase Timber Supply

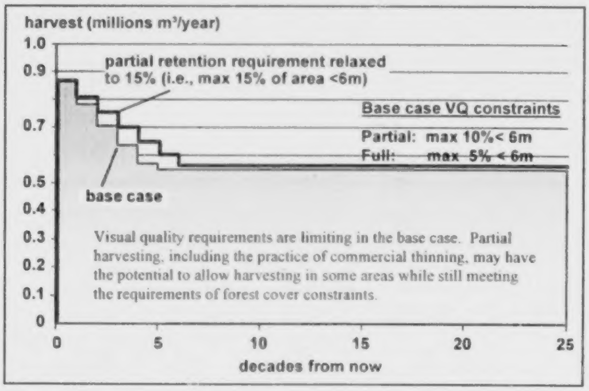
Opportunities Indicated Through TSR Sensitivity Analyses

TSA modelling in support of planning incremental silviculture has not yet been undertaken. In its absence, sensitivity analyses from the TSR1 analysis report are the best source of information as to the opportunities for incremental silviculture to increase future timber supply. The following are selected sensitivity analsysis charts from the TSR1 analysis report, to which opportunity information is added. Detailed analyses are required to confirm the indicated effects.



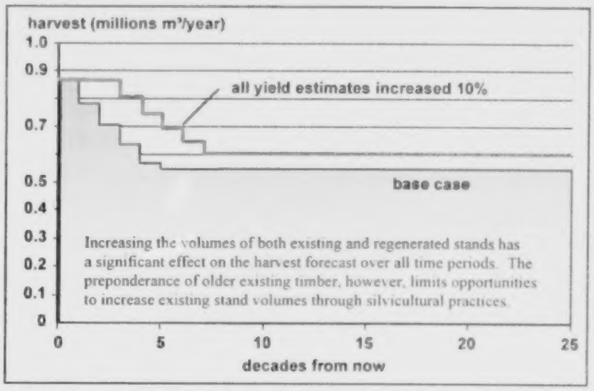
Silvicultural practices can be used to achieve green-up heights at younger ages. This would enable slightly higher harvest levels in all time periods.

Figure 1. Changes in green-up ages, Mid Coast TSA



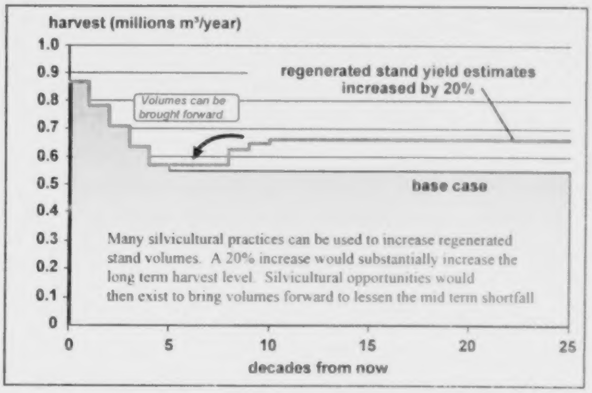
Visual quality requirements are limiting in the base case. Partial harvesting, including the practice of commercial thinning, may have the potential to allow harvesting in some areas while still meeting the requirements of forest cover constraints.

Figure 2. Changes in adjacency requirements in the visual quality zones, Mid Coast TSA



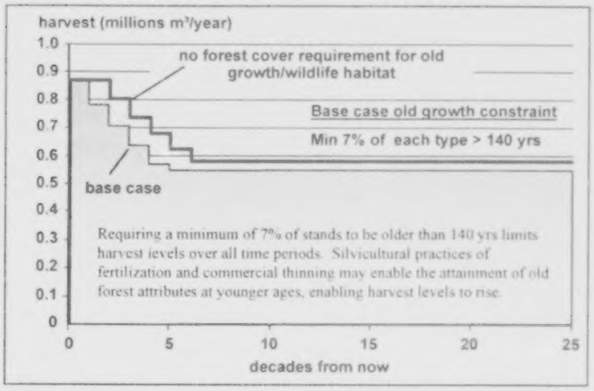
Increasing the volumes of both existing and regenerated stands has a significant effect on the harvest forecast over all time periods. The preponderance of older existing timber, however, limits opportunities to increase existing stand volumes through silvicultural practices.

Figure 3. Changes in yield estimates for both existing and regenerated stands, Mid Coast TSA



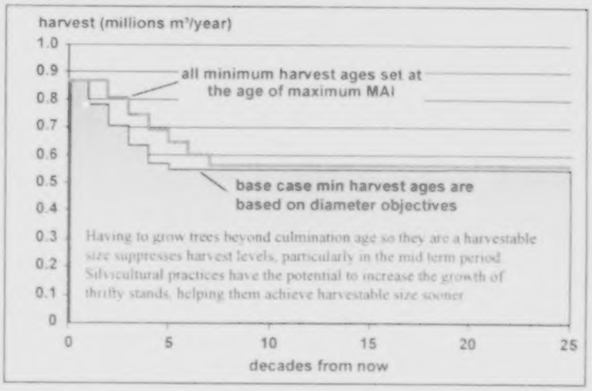
Many silvicultural practices can be used to increase regenerated stand volumes. A 20% increase would substantially increase the long term harvest level. Silvicultural opportunities would then exist to bring volumes forward to lessen the mid term shortfall

Figure 4. Changes in regenerated stand volumes, Mid Coast TSA



Requiring a minimum of 7% of stands to be older than 140 yrs limits harvest levels over all time periods. Silvicultural practices of fertilization and commercial thinning may enable the attainment of old forest attributes at younger ages, enabling harvest levels to rise.

Figure 5. Changes in old growth requirements, Mid Coast TSA



Having to grow trees beyond culmination age so they are a harvestable size suppresses harvest levels, particularly in the mid term period. Silvicultural practices have the potential to increase the growth of thrifty stands, helping them achieve harvestable size sooner.

Figure 6. Effect of lowering minimum harvest ages, Mid Coast TSA

Preliminary Identification of Silviculture Opportunities

Prior to the district working session, information in the previous sections was used to identify the following silvicultural strategies as having potential to increase future timber supply at the TSA level. Each of these was discussed in detail in the district working session, the results of which are recorded in "Potential Strategies by Response Time Frame," page 10, along with additional strategies that arose during the meeting. Strategies that are ultimately adopted are noted in "Silviculture Strategies," page 25.

Short Term (1 - 20 yrs)

ST 1: reduce green-up ages 5 years reduce minimum harvest ages (target hemlock-balsam stands - 20 years on M/G sites and 10 years on P sites?);

ST 2: overcome adjacency constraint in PR VQO;

ST 3: increase the volume of some existing stands;

ST 4: expand the timber harvesting land base;

ST 5: create old-growth attributes earlier.

Mid Term (21 - 50 yrs)

MT 1: reduce green-up ages 5 years reduce minimum harvest ages (target hemlock-balsam stands - 20 years on M/G sites and 10 years on P sites?);

MT 2: overcome adjacency constraint in PR VQO;

MT 3: increase regenerated stand volumes 20%;

MT 4: space post FG stands to set up for CT to bring forward harvest from long term into mid term (increasing regenerated stand volumes creates a mid term shortfall);

MT 5: increase the volume of some existing stands;

MT 6: expand the timber harvesting land base; and

MT 7: create old-growth attributes earlier.

Long Term (51+ yrs)

LT 1: increase regenerated stand volumes 20%;

LT 2: reduce green-up ages 5 years reduce minimum harvest ages (target hemlock-balsam stands - 20 years on M/G sites and 10 years on P sites?);

LT 3: overcome adjacency constraint in PR VQO; and.

LT 4: create old-growth attributes earlier.

Available Information Regarding Potential Treatments and Treatable Area

This section summarizes available information directly relevant to the potential treatments for the TSA.

Treatment	Comment	Treatable Area
◆ General	Opportunities are limited as stands are generally too remote to economically treat. Situation exacerbated by there being few local contractors. (rationale, 17)	
◆ Spacing	In addition to above, opportunities limited by root rot. (rationale, 17)	
◆ Fertilization	Fertilization not assessed in TSR.	Candidate stands limited by type and location. District looks for 80% + Fdc, G or M site. Lack of continuous stands.
◆ Commercial Thinning	High transportation costs for CT products. No stands currently proposed for commercial thinning. (rationale, 17)	Few stands of appropriate age. Opportunities are limited by root rot. (rationale, 17) There is about 5 000 ha of potential CT area coming up (1 000 ha currently in age class 2 & 4 000 in age class 1).
◆ Conversion	Conversion of alder stands already incorporated in TS analysis. (rationale, 16) An interest has been expressed by a hardwood manufacturing company in harvesting alder stands. Because of this the district is not actively rehabilitating alder stands.	There is less treatable area than would appear due to terrain, access and riparian concerns. Likely 200 ha of harvestable stands.
◆ Backlog NSR	Planned for restocking by end of decade. No additional opportunity.	

Potential Strategies by Response Time Frame

Explanatory notes with respect to the following tables.

Column Number	Note
1	The response time frame is the period in which the anticipated result is expected, not the period in which actions must necessarily commence.
2	Strategy numbers correspond with the numbers recorded earlier in "Preliminary Identification of Silviculture Opportunities," page 9.
3	Information in this column is largely from a meeting of ministry personnel and forest licensees held in Campbell River August 5 & 6, 1998, combined with information presented earlier in this document.
4	Anticipated results are calculated using the timber supply response indicated by TSR1 sensitivity analyses.
5	The harvest forecast for the short term uses the TSR1 AAC as the starting level in the first decade, declining at a rate of 10%/decade thereafter until 50 years from now, after which it is held constant. The harvest forecast column was not thoroughly reviewed during the district meeting. Results are purely conjecture and are meant to illustrate the potential of the strategies.

In the AAC rationale, the chief forester identified a number of potential downward influences on timber supply. For the purposes of this strategy, however, a status quo is assumed with respect to these. Should any arise, the following strategies would serve to mitigate their effects rather than increase timber supply.

Opportunities to improve timber supply in this TSA are limited due to distance to market for products, species types, age class distributions, presence of root rot, and difficulty in obtaining reasonable bid prices for silviculture work from non-resident contractors.

<table>
<tr><th>Response Time Frame</th><th>Potential Strategy/Action</th><th>Discussion / Current Status</th><th>Anticipated Result</th><th></th></tr>
<tr><td>◆ Short Term (1 - 20 yrs)
◆ ST 1</td><td>1. Achieve green-up 5 years earlier in all zones ~~(target H/B?)~~ by:</td><td>1. The best opportunities to achieve earlier green-up are pre-FG. However, green-up is not really an on-the-ground constraint, except on the outer coast. The economics of harvesting on the mid-coast require a true "pass" system, where drainages are left for 20 - 30 years between passes. By the time of return for the next pass, all areas will be greened up. Participants at the district working session felt old growth requirements to be more restricting. (note: "target H/B" moved to ST6)
Ages to reach specified tree heights (FG ages are district estimates; 3M & 6M ages are from TSR1).
<table>
<tr><th>Species</th><th>FG Ht (m)</th><th>FG</th><th>3M</th><th>6M</th></tr>
<tr><td>Cw</td><td>1.5</td><td>9-11</td><td>15</td><td>23</td></tr>
<tr><td>H/B</td><td>3</td><td>9-11zonal</td><td>15</td><td>23</td></tr>
</table></td><td>1. TSR1 indicates a 5 yr earlier green-up yields an approximately 3% increase in harvest levels in the 2nd decade. Except on outer coast green-up is not really a limiting factor, which indicates TSR 1 assumptions may be pessimistic. Assume 2 yr earlier green-up achieved on all areas (2/5 X 3% ⇒ 1%).</td><td>1.00 Initial.
0.90 2nd dec.
0.01 grn-up
0.00 prt harv
0.00 fert
0.00 incr THLB
0.00 old growth
0.05 min ages
0.96 total</td></tr>
<tr><td></td><td>(a) planting large genetically improved stock;</td><td>1.(a) Planting larger stock is a basic silv matter - not likely to change w/o funding assistance. Due to high transportation costs for larger seedlings, it is cheaper to plant regular stock and fertilize.
Genetically improved stock is expected to reach green-up sooner than stock from unimproved seed, although gain in years is not known. A relatively high proportion of planting stock comes from A seed. Cy comes from cuttings. See MT3 for more info. Assume 1 year earlier green-up.</td><td></td><td></td></tr>
<tr><td></td><td>(b) increasing proportion of area planted & plant all areas sooner (to reduce regeneration delay 1-2 yrs);</td><td>1.(b) Regeneration delays in the TSR1 analysis were up to 6 years (further detail is not available). Reducing regen delay is a basic silv matter. Overall, approx. 95% of harvested areas are planted within 1 yr of harvest, so there is no room to increase the proportion planted or reduce regeneration delay further. Natural regeneration is on outer coast sites which comes in very thick. Due to prohibitive cost trends, licensees may move to rely more heavily on natural regeneration which would have a tendency to lengthen regen delay. Assume no reduction in regen delay.</td><td></td><td></td></tr>
<tr><td></td><td>(c) brush for growth enhancement; and/or</td><td>1.(c) Brushing is currently for survival - unlikely to change w/in current funding structure. Only really nutrient-rich sites require brushing (10-20% of sites).</td><td></td><td></td></tr>
<tr><td></td><td>(d) fertilize suitable regenerated stands. ~~to increase the growth of residual trees~~.</td><td>1.(d) Trend may be to fertilizing all seedlings at time of planting. WFP is fertilizing 30-40% of seedlings. MoF is not fertilizing.
Post FG aerial fertilizing Cw/Hw on the outer coast is an option. About 30% of cut is outer coast and ½ of this is Cw types (≡ 200 ha/yr). **Purpose of a post FG fert would be to get green-up sooner and release other timber.** Costs for fertilizing low elevation stands are reasonable as can be done from a barge. Few cedar-salal types, so SCHIRP info not useful guide as to response. Requires research - noted under "Summary of Information and Research Needs," page 26.</td><td></td><td></td></tr>
</table>

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result
		Summary: On the whole, it appears green-up is or could be achieved at least 2 years earlier than in the base case.	
◆ ST 2	2. Implement partial harvesting/CT regimes in PR VQO zone to increase timber supply from areas limited by adjacency constraints.	2. Some partial harvesting is planned. Will possibly increase when there is no alternative to harvesting in areas limited by forest cover constraints, but harvesting and access, terrain and costs are limiting factors. There are no areas of suitable age and location available for CT in this time period. Harvesting and transportation costs are high. No plans.	2. N/A
◆ ST 3	3. Increase the volume of some existing stands ~~volumes~~ through fertilization.	3. Because of the present age class distribution, there are no suitable stands scheduled for harvest in this time period which would respond to fertilization. Not possible to find large contiguous areas for fert.	3. N/A.
◆ ST 4	4. Expand the timber harvesting land base through: (a) rehabilitating backlog NSR; and (b) recover area lost to roads.*[2]	4.(a) Very little treatable backlog remaining (see "Incremental Silviculture History," page 6). **Minor amount of backlog brushing (20 ha/yr) and conifer release (40 ha/yr) required to maintain earlier plantations**. Impacts already included in TSR1 base case. 4.(b) 4 400 ha deducted in TSR1 for roads. This is 4 400/155 600 or 3% of THLB. Amount seems reasonable. Conclusion: no opportunity.	4. (a) Already in base case forecast. (b) N/A.
◆ ST 5	5. Create old-growth attributes earlier.	5. No short term impact because there are no treatable stands in this period. Also, due to the abundance of older timber in this period, this cannot be a directly limiting factor in the short term. Complete removal of old growth requirement allows the initial harvest level to be maintained for 2 decades (1 more than base case). This is an allowable cut effect related to the age class structure of the TSA, because existing older timber no longer has to be held through the mid term time period until replacement regenerated stands become available. Little present knowledge and experience with creating old-growth attributes earlier through silvicultural practices. Noted under "Summary of Information and Research Needs," page 26. Assume no gain possible at this time. See MT 7 & LT4.	5. N/A.
◆ ST 6	6. Reduce minimum harvest ages by 10 years.*	6. TSR 1 ages are determined on a technical rotation basis using TIPSY. However, volumes at these ages for both existing and regenerated stands (except Fdc) are determined using VDYP. Trees must reach a certain diameter in order to be profitable to harvest. These diameter limits are at sizes and ages which exceed sizes and ages where MAI is at its maximum. (cont'd next page)	6. TSR 1 sensitivity analysis indicates a 10 year reduction in ages results in a 10% gain in the 2nd decade harvest level. A 5 yr reduction = (.5 X .10) ⇒ 5%

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[2] * Indicates potential strategy added during the district meeting.

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result

The following compares VDYP with TIPSY for the same minimum DBH used in TSR1.

TIPSY age - age at which specified avg stand dia is reached;

TIPSY vol - vol at above age, 17.5 cm merch.

TIPSY Establishment density - 1 000 st/ha, same as used in TSR

		TSR1			TIPSY		
Species/site	%THLB	DBH	min age	vol	SI	age	vol
Hw G&M	30	45	105	518	33	90	1238
Cw G&M	6	56	90	421	30	120	1502
"		45*			30	80	934
Cw P	14	45	110	302	22	140	918

*The reason for the larger dia limit for Cw G&M (56 cm) is not supplied in the TSR1 analysis report. For comparison, a TIPSY age & yield at 45 cm DBH is given.

The above table indicates that **managed stands will yield 2 to 3 times the volume of unmanaged stands** and, with the exception of Cw-P (assuming Cw -G/M DBH of 45 cm), **at younger ages than used in TSR1**. (Note: AAC rationale, p 9, indicates 34% higher yields overall.) Given that: minimum harvest ages cannot be restricting harvest of the large old-growth component and only 8% of stands are aged 41 -140, it can be expected that min ages are therefore most restricting to those stands regenerated over the past 20 yrs and in the future. However, as the above table shows, these stands will have lower minimum ages and yield substantially higher volumes than used in TSR1. The implications of this for an incremental silviculture strategy require modelling. For the purposes of this exercise, assume a 5 yr min age reduction (this would seem conservative, these volumes are without OGSI adjustments or benefits of tree improvement).

♦ Mid Term (21 - 50 yrs) ♦ MT1	1. Achieve green-up 5 years earlier in all zones (target H/B?)	1. See ST 1 above. This is largely a basic silv. activity. Assume a 2 yr reduction can be achieved.	1. Sensitivity analysis indicates a 5 yr reduction in green up ages reduces the rate of decline in the harvest forecast over the mid term by 3% per decade, starting in decade 2. Decade 3 has a 6% higher harvest level than the base case, etc. 2/5 X 6 = 2%; 2/5 X 9 = 4%; 2/5 X 12 = 5%	0.81 3rd dec. 0.02 grn up 0.00 prt harv 0.00 rgn vol 0.00 br fwd 0.00 exist stnd 0.00 THLB 0.00 old grwth 0.02 min ages 0.85 total
♦ MT 2	2. Overcome adjacency constraints in PR	2. (a) See discussion under ST 2 above.	2.(a) N/A	0.73 4th dec.

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	
	VQO zone by: (a) partial harvesting; and (b) setting up stands for CT through spacing.	(b) Of the species present in the TSA, only Hw offers CT potential. There are approximately 4 000 ha and 1 000 ha of potentially commercially thinnable Hw stands presently in age classes 1 & 2 respectively. Most of these stands are already spaced. In 30 (start of mid term) and 50 years (end of mid term) from now the age class 1 stands will be 40 and 60 years old respectively and the age class 2 stands will be 60 and 80 years respectively, ages at which they might be commercially thinned. However, these stands are not in the PR zone, so there is not reason for CT'ing them to overcome adjacency constraints. Other factors related to CT include • could be used to accelerate old growth characteristics of stands, but need for this is not certain; • thinning material would be below the minimum required diameter, so would have to be a high market price for the wood to make operations profitable. • while CT might capture mortality, it will also transfer harvest forward in time, possibly creating a harvest shortfall (below the LTHL) somewhere in decades 6-8. • setting up stands now for potential commercial thinning creates flexibility, however WFP has some advice from European contacts that it may be better to plan to CT unspaced Hw stands which may yield clear gang logs. Conclusion: Opportunities and benefits of partial harvesting and CT are unclear. **Requires modelling.** Old growth requirements may be limiting future harvest levels, but there is uncertainty as to how silviculture practices might be used to alleviate this. For now, assume no opportunity. Decisions can be made as appropriate sometime in the future when stands are ready for CT.	2.(b) N/A	0.03 grn up 0.00 prt harv 0.00 rgn vol 0.00 br fwd 0.00 exist stnd 0.00 THLB 0.00 old grwth 0.02 min ages 0.78 total
• MT 3	3. Increase regenerated stand volumes 20% by: (a) reducing time to regeneration; (b) using A class seed or better;	3. (a) See discussion under ST 1 above. Assume no reduction in regen delay. 3. (b) Approx. 95% + of harvested areas are planted. 70% of plantations are Fdc & Cw, 30% is Ba, SS & Cy. Fdc, Cw and SS all come from A seed. No A seed for Ba. Cy comes from cuttings. Latest estimates of yield gains are (%):[3] Species — 1st gen — 2nd gen Doug-fir — 3-5 — 15 Hemlock — 3 — 20 Cedar — 3 — 10 Sitka spruce — 3-5 — 15 Yellow cedar — 5-9 (cuttings)	3. Sensitivity tests indicates a 20% increase in regenerated stand yields do not directly increase MT harvests in decades 3-5. **However, the sensitivity analysis indicates increased regenerated stand volumes increase LTHL starting 80 years from now,** fundamentally changing the shape of the forecast and creating a MT shortfall. This has implications for the potential for spacing, fertilization and commercial thinning programs to attempt to raise volumes 40 to 80 years from now.	0.66 5th dec. 0.03 grn up 0.00 prt harv 0.00 rgn vol 0.00 br fwd 0.00 exist stnd 0.00 THLB 0.00 old grwth 0.03 min ages 0.72 total Unknown if effects are additive or perhaps compounded. Increased site

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[3] Source: participants at district meeting.

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result
	(c) using large planting stock; (d) managing stocking to reduce voids 5%; (e) fertilizing regenerated stands (cedar?) where efficacy is proven.	Balsam N/A N/A Assume 2^{nd} gen seed will be available in due course for most species in the TSA (need Balsam) ⇒ 10% avg gain. 3. (c) See ST 1 above. May be cheaper to fertilize at time of planting than using larger stock due to the high transportation costs for larger stock. Trend is towards fertilizing. Volume gain difficult to determine. If 3 years taken off a 100 year rotation ⇒ 3%. 3. (d) TIPSY not used for most regenerated stands so 15% OAF for voids is not directly relevant when reviewing TSR1 sensitivity analyses. See ST 6 for volume differences between VDYP and TIPSY. Reducing OAF 1 from 15% to 10% would increase the indicated TIPSY yields by 5%. Voids can be desirable for grizzly bear habitat (10% of THLB). Current free growing requirements will result in < 15% in voids, however amount is unknown. Participants in the district working session felt 10% may be more reasonable. Actual voids could be surveyed. Noted under "Summary of Information and Research Needs," page 26. Assume 5% reduction. 3. (e) See (c) above re fertilizing at time of planting. Post FG could be done with FRBC funding, however has been no fertilization since 1993.- see discussions under MT 5 below. Summary: A 15% gain on TIPSY yields can be anticipated through implementation of the indicated actions.	
• MT 4	4. Space ~~all~~ post FG stands to: (a) set up for CT; (b) bring forward harvest from long term into mid term.	4. Determining the value of/need for this strategy depends upon assumptions about (i) the increase in regenerated stand volumes associated with TIPSY yields (vs VDYP), (ii) the results of the OGSI project and (iii) potential increases in regenerated stand volumes over TIPSY (as in MT3 above). Potentially, these three factors could increase the long term harvest forecast by 35% to 100%. Were this the case, a substantial mid term "shortfall" may develop, approximately in the period 40 to 80 years from now. Based on an avg annual area harvested of 1 600 ha/yr, there is a substantial annual area of candidate stands to be set up for possible CT. To fill the anticipated supply gap, all age class 1 stands and newly regenerated stands should be considered for spacing. Due to high harvesting and transportation costs, there is likely to be more need to harvest whole stands earlier than there is for commercial thinning. However, to keep options open, spacing prescriptions should generally be to a higher stocking level associated with future CT. Because Hw is prolific, it has occupied sites for which it is not the optimum species from a timber productivity standpoint. The following shift in proportions of the THLB by species is anticipated as some older Hw stands are harvested and reforested with more appropriate species: Species Present % Future %	4. Requires better data and modelling to determine effect on harvest forecast.

productivity may compound these effects. Age reduction factors may overlap, with the combined total being less than when separately analyzed.

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result
		HwBa 65 50 Cw 20 25 Fdc 10 15 SS 5 10 SS & Cw are not spaceable. Based on 1 600 ha harvest annually, Fdc would be regenerated on **240 ha/yr, (rounded to 250 ha/yr). All Fdc could be spaced. Of these approx, 200 ha could be spaced to allow for future CT, with the remaining 50 ha spaced to achieve harvestable piece sizes earlier.** Approximately 30% of HwBa stands could be spaced. This nets to a program of 50% X 30% X 1 600 ha/yr = **240 ha/yr (rounded to 250 ha/yr). Of these, approx 200 ha could be spaced to allow for future CT, with the remaining 50 ha spaced to achieve harvestable piece sizes earlier.**	
◆ MT 5	5. Fertilize existing (a) hemlock and (b) cedar stands to raise their volumes.	5. No fertilization currently taking place. (a) Need to identify characteristics of hemlock stands that show a fertilization response so treatable area can be expanded. (Noted as a requirement for further research under "Summary of Information and Research Needs," page 26.) 5. (b) No opportunity to fertilize older existing Cw stands. (Younger stands discussed under ST 1 (d) & MT 8.)	5. (a) N/A 5. (b) N/A
◆ MT 6	6. Expand the timber harvesting land base through continuing ST4.	6. See ST 4 above. No opportunity.	6. See ST 4 above. Effect already in base case forecast.
◆ MT 7	7. Create old-growth attributes earlier.	7. See ST 5 above. Little present knowledge and experience with creating old-growth attributes earlier through silvicultural practices. Assume no gain possible at this time.	7. N/A
◆ MT 8	8. Reduce minimum harvest ages and raise volumes by fertilizing Hw.	8. See ST 6 re reducing min harvest ages. Assume 5 yr reduction. About **200 ha/yr of fertilization could be done on the outer coast in Hw stands**. On a 10 yr repeat cycle, this would mean 2 000 ha under management.	8. Sensitivity analysis indicates a 10 yr min age reduction results in a rate of decline of 8%/decade vs 10% in the base case. Decade 3 has a 4% higher harvest level than the base case, etc. 5/10 X 4 = 2%; 5/10 X 6 = 3%; 5/10 X 8 = 4%
◆ Long Term (51 + yrs)	1. Increase regenerated stand volumes 20% by continuing MT3.	1. See MT 3. A 15% gain can be anticipated from silvicultural practices. Also, substantial gains can be anticipated from managed stands generally. This will be accounted for when TIPSY yields are applied. Further gains may occur if site indexes are underestimated. TSR2 will no doubt give a more accurate	1. 15% to 50%

0.55 base

0.07 partition
0.08 rgn vol

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result
		representation of future volumes.	
	2. Achieve green-up 5 years earlier in all zones (target H/B?)	2. See discussion under ST 1 above. This is a basic silv. activity. Assume a 2 yr reduction in green-up ages is achievable.	2. Sensitivity analysis indicates a 2% increase in LTHL. 2/5 X .02 = 1%.
	3. Overcome adjacency constraints in PR VQO zone	3. See discussion under MT 3 above. Opportunities and effects are unclear.	3. N/A
	4. Create old-growth attributes earlier.	4. See discussions under ST 5 above. Opportunities and effects are unclear.	4. N/A

0.01	grn up adjacency old grwth
0.71	total

TSR sensitivity analysis indicates an increased harvest in long term would begin 80 years from now.

Potential Harvest Forecast

Figure 7 graphs the potential harvest level that may be attained through implementation of the silvicultural strategies in the preceding tables. This forecast is highly speculative and requires confirmation through computer-based modeling and analysis. It also includes silvicultural activities that are not within the traditional scope of incremental silviculture. Modeling may indicate more precise timing, targeting and program levels associated with incremental silviculture activities than could be developed in this interim strategy.

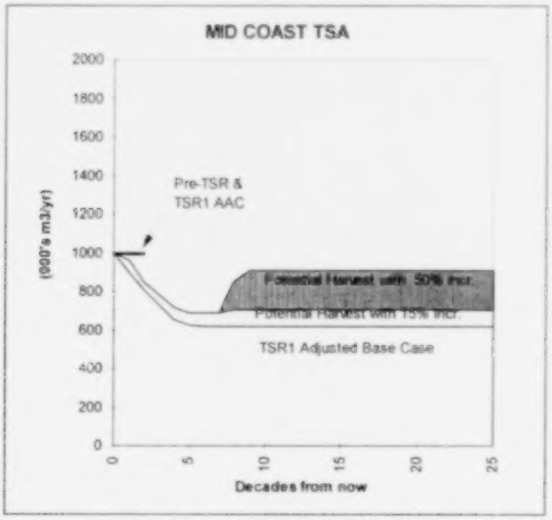

Figure 7. Potential harvest forecast, Mid Coast TSA

TSR 1 base case adjusted as follows:

- initial harvest level set at TSR 1 AAC;
- 1st 5 decades decreased at 10%/decade, same rate as TSR 1 base case;
- After 50 years the harvest level is held constant.

Two potential harvest forecasts are shown.

- The forecast "with 15% increase" shows the effect of increasing regenerated stand volumes 15% above those used in the base case. This reflects a scenario of using silvicultural practices to increase regenerated stand volumes by 15%, using the VDYP yields of the base case.
- The forecast "with 50% increase" shows the combined effect of increasing regenerated stand yields as above, along with an assumption that TIPSY yields will average at least 35% higher than VDYP yields.

Opportunities to Improve Timber Quality

The effects of incremental silviculture on the future quality of the timber resource were not analyzed in the timber supply review. Information in this section was gathered during the district working session.

Potential Harvest Forecast

Figure 7 graphs the potential harvest level that may be attained through implementation of the silvicultural strategies in the preceding tables. This forecast is highly speculative and requires confirmation through computer-based modeling and analysis. It also includes silvicultural activities that are not within the traditional scope of incremental silviculture. Modeling may indicate more precise timing, targeting and program levels associated with incremental silviculture activities than could be developed in this interim strategy.

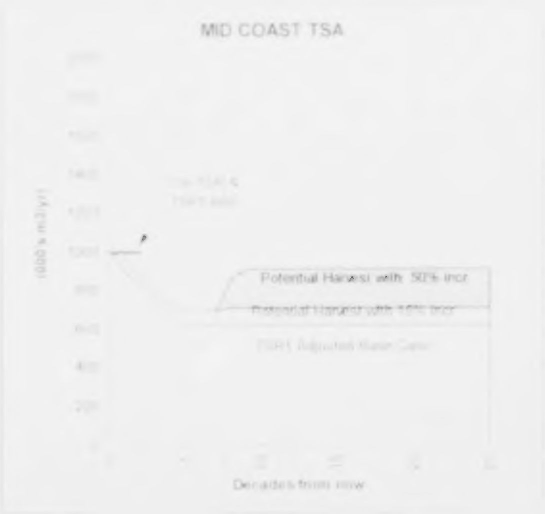

Figure 7. Potential harvest forecast, Mid Coast TSA

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Opportunities to Improve Timber Quality

The effects of incremental silviculture on the future quality of the timber resource were not analyzed in the timber supply review. Information in this section was gathered during the district working session.

Product Objectives

The following are product objectives at the log level for the Mid Coast TSA.

Quality Class	Species	Characteristics
Premium Log:	Douglas-fir, clear, pruned	45 cm min DBH, pruned, min 5.5 m log.
	Hemlock, clear	45 cm min DBH, pruned, 3.5 - 5.5 m log.
	Cedar pole	45 cm min DBH, over 20 m long min 20 cm top, few knots.
	Sitka spruce	45 cm min DBH
Sawlog:	Minimum average stand DBH by species and site class as follows:	
	Cedar, G/M	56 cm
	Douglas-fir, P	40 cm
	Hemlock/Balsam, P	35 cm
	All other	45 cm

Available Information Regarding Potential Treatments and Treatable Area

Treatment	Comment/ Potential Treatment Regimes	Treatable Area
◆ Spacing		
◆ Commercial Thinning		
◆ Pruning		
◆ Space/ Prune		
◆ Space/ Prune/Fert		
◆ Other		

Potential Strategies by Response Time Frame

The following strategies have potential to increase timber quality. These were identified in the district working session. The response time frame is the period in which the anticipated result is expected, not the period in which actions must necessarily commence.

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	
◆ Short Term (1 - 20 yrs)	None	Short term harvests will come from existing very old stands which are not treatable to improve quality.	Quality profile of existing old growth will prevail. Assume this is equal to a recent coast-wide estimate of 15%.	15%?
◆ Mid Term (21 - 160 yrs)	1. Prune 200 ha/yr to 3.5 m and 200 ha/yr to 5.5 m to yield a 5 m log.	1. In the past, more single lift pruning has taken place than two-lift. Because of the need to increase premium log content, the potential strategy is based upon changing to two lifts on all pruned stands. Spacing is a pre-requisite to pruning. Calculation of % of tree volume that is pruned: 35 m tree less 8 m top = 27 m merch length The 1^{st} 0.5 m of tree is left in the stump, therefore a 5.5 m pruning ht yields a 5 m pruned 1^{st} log. 5 m pruned log = 5/27 = 19% of the tree. However, because diameter is greater in the bottom log, there is more volume in the bottom part of the tree. Assume 25% of volume is in 1^{st} 5.5 m log.	1. 200 ha is approx 13% of annual area harvested (200/1600). Assume 5 m log is 25% of tree vol. (.13 X .25) ⇒ 3%.	1. 3% clear 2. 1% poles Total: 4%

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result
		Pole content calculation: The characteristics of stands yielding poles are higher density, G or M site. The higher density reduces knot sizes and stem taper. TIPSY indicates that for Cw with an initial density of 4 000 st/ha, SI 30, at age 100, 28% of stems will be ≥ 50 cm dbh. However, not all of these stems will be pole quality. Assume ½ of this or 14%. It is anticipated that Cw will shift to being 25% of all stands (see Quantity - MT 4). However, not all of these will have sufficient density or site quality. Assume 1/3 of stands will have these characteristics. (25%/3 = 8% of THLB)	No estimate available. If 1/3 of Cw leading species (25/3 = 8% of THLB) is higher density G & M site Cw and 14% of stand is poles ⇒ 1% of future harvests will be poles.
♦ Long Term (161 + yrs)	As above.	As above.	As above.

4%

Timber Quality Forecast

The foregoing analysis indicates the premium log content of harvests in the mid and long term will be substantially lower than today's levels (4% forecast vs. current estimate of 15%). This estimate does not include a large log component of the premium log definition and therefore may be lower than otherwise would be the case. A higher level of pruning program than currently planned would serve to improve future timber quality, however, there is a lack of treatable stands due to accessibility and cost.

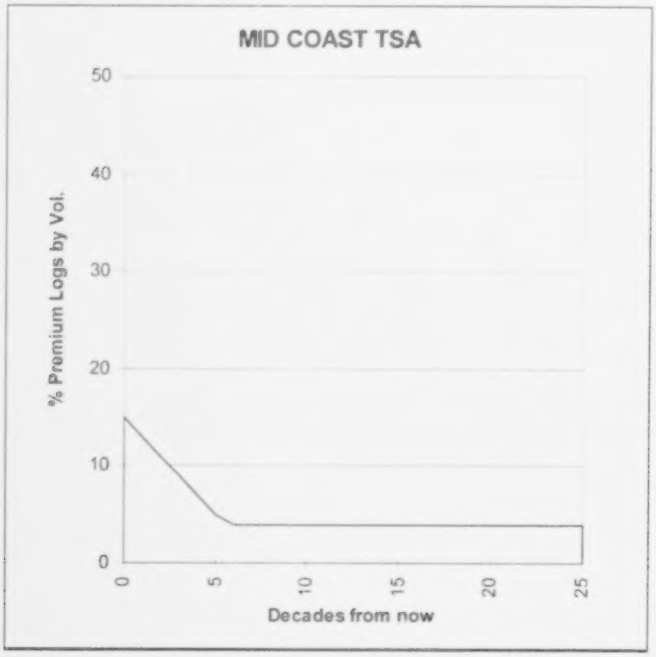

Figure 8. Potential Quality Forecast, Mid Coast TSA

Incremental Silviculture Strategy

This section synthesizes the preceding background information and analysis into an incremental silviculture strategy for the TSA.

Preparing an accurately targeted incremental silviculture strategy for the Mid Coast TSA is difficult until two major uncertainties in information are overcome. The first of these is with respect to yield assumptions. TSR 1 used VDYP yields for the majority of regenerated stands, which are considerably lower than TIPSY yields. When TIPSY yields are applied, a significant rise in the long term harvest forecast can be anticipated. Similarly, because of the abundance of older existing stands, if site indexes for these stands prove underestimated there may also be a significant upwards adjustment to the long term harvest forecast for this TSA. These may alter the TSA's sensitivity to some other factors. At this time, therefore, it is prudent to focus on incremental silviculture strategies that will be appropriate regardless of whether or not such changes occur.

General Strategy

The primary focus of the incremental silviculture strategy in the Mid Coast TSA is to improve the quantity and quality of timber supplies over the long term. Strategies towards this end are reducing green-up ages, increasing regenerated stand volumes, and spacing newly regenerated stands. Pruning of some stands will ensure at least a minimal supply of premium logs in the future.

Working Targets

The preceding analysis indicates the following working targets are attainable. Figure 9 illustrates these.

WT 1 (Quantity):	Manage mid-term timber supplies to yield a harvest of approximately 0.7 million m3/yr and long term supplies to yield 0.8 million m3/yr.
WT 2 (Quality):	Manage regenerated stands to yield at least 4% premium logs by volume, with the majority of the remainder being of sawlog quality.

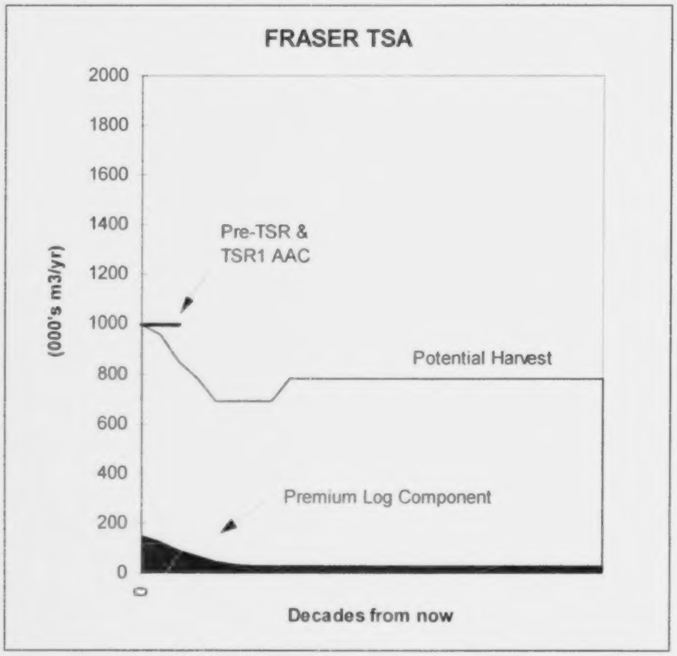

Figure 9. Combined Potential Quantity and Quality Harvest Forecasts, Mid Coast TSA

Log Product Objectives

The following are product objectives at the log level for the Mid Coast TSA.

Quality Class	Species	Characteristics

Premium Log: Douglas-fir, clear, pruned 45 cm min DBH, pruned, min 5.5 m log.

Hemlock, clear......................45 cm min DBH, pruned, 3.5 - 5.5 m log.

Cedar pole ....45 cm min DBH, over 20 m long min 20 cm top, few knots.
Sitka spruce...45 cm min DBH

Sawlog: Minimum average stand DBH by species and site class as follows:

Cedar, G/M56 cm

Douglas-fir, P 40 cm

Hemlock/Balsam, P 35 cm
All other ....45 cm

Silviculture Strategies

Strategies to Increase the *Quantity* of Future Timber Supply

The following strategies have identified potential to increase the quantity of the timber supply of the Mid Coast TSA. (Strategy numbers correspond with those recorded earlier.)

(Note: Some of these are pre free growing silviculture activities. Where licensees can meet their free-growing obligations without undertaking such activities they are not likely to voluntarily undertake them due to the extra cost. In such cases, funding assistance would likely be necessary.)

No.	Strategy
ST1 / MT1 / LT2	Achieve green-up 2 years earlier in all zones by: (a) planting genetically improved stock; and (d) fertilizing seedlings at the time of planting as well as fertilizing 200 ha/yr of post free-growing cedar stands on the outer coast.
ST4 / MT6	Brush or girdle 60 ha/yr of backlog plantations to ensure free growing status is achieved.
MT3 / LT1	Increase regenerated stand volumes 15% by: (b) using (2nd generation) A class seed or better; (d) managing stocking to reduce voids 5%; and (e) fertilizing seedlings at time of planting.
MT4	Space 500 ha/yr of Douglas-fir and Hemlock-Balsam stands to increase avg. piece sizes and prepare stands for pruning and commercial thinning.
MT8	Reduce minimum harvest ages and raise volumes by fertilizing 200 ha/yr of hemlock stands on the outer coast.

Tree improvement is critical to achievement of a number of the preceding strategies.

Strategies to Increase the *Quality* of Future Timber Supply

The following strategies have identified potential to increase the quality of the timber supply of the Queen Charlotte TSA.

No.	Strategy
Q1	Produce 3% clear timber by volume by pruning 200 ha/yr to 3.5 m and 200 ha/yr to 5.5 m.

Strategies to Increase the *Quantity* or *Quality* of Future Habitat Supply

(Note: The following strategy was developed in the district working session during discussion of the regime table. Consequently there is no prior documentation in this report.)

The following strategy has identified potential to increase the quality or quantity of the habitat supply of the Mid Coast TSA.

No.	Strategy
H1	Space 10 ha/yr to improve riparian habitat.

Summary of Information and Research Needs

During the assessment process, the following needs for further information and research became apparent. The outcome of these have implications for an incremental silviculture strategy.

1. Hemlock response to fertilization is variable. Were the causes for this determined there may be considerable potential for hemlock fertilization to improve the harvest forecast. Also need research trials on cedar fertilization on the outer coast. (ST1, MT5)
2. Experimental trials and guidelines are required for creating old-growth attributes earlier through silvicultural practices. (ST5)
3. Require TIPSY yields for regenerated stands. (ST6)
4. OAF 1 factor of 15% requires confirmation. Survey techniques are available. Requires statistical validity at the management unit level if to be used for AAC determination. (MT3)
5. Old growth site index and existing stand volume estimation studies require completion.

Silviculture Regimes and Investment Priorities

The following table indicates incremental silviculture regimes which are suitable to attaining the above working targets and strategies.

Regime Table, Midcoast TSA, August 1998

Regimes		Strategy	Opportunity Area (Ha/Yr)	Timber Supply Effects			Quality	Habitat	Direct Silv. Jobs Days/ha	Direct Cost $/ha	Rank
				Short	Medium	Long					
1	**Backlog**										
	Girdling	ST4,MT6	40	0	0	+	0	0	3	1000	1
	Brushing		20	0	0	+	0	0	4	1250	1
	Spacing										
	Fd >5000 to 900										
2	<12m G-M for CT	MT4	200	0	++	0	+	0	4	1400	2
3	P, no CT P	MT4	50	0	+	0	+	0	3	1400	4
	Hw > 5000 to 900										
4	M-G for CT	MT4	200	0	++	0	+	0	5	1800	4
5	P, no CT	MT4	50	0	+	0	+	0	4	1800	6
6	Riparian habitat	H1	10	0	0	0	0	+	7	2200	*
	Pruning (spaced stands)										
7	Fd leading 1st lift to 3.5 m	Q1	200	0	0	0	+++	+?	10	1800	3
8	Hw leading 1st lift to 3.5 m	Q1		0	0	0	+++	+?	12	2200	5
9	Fd leading 2nd lift to 5.5 m	Q1	200	0	0	0	+++	+?	10	1800	3
10	Hw leading 2nd lift to 5.5 m	Q1		0	0	0	+++	+?	12	2200	5
	Fertilization										
	Outer coast										
	Cw, post FG, pre greenup	ST1	200	+	0	0	0	0	.1	1000	7
	HB repeated	MT-8	200	0	+	0	0	0	.1	1000	*

Notes
* Experimental

Incremental Silviculture Program

The following annualized program will contribute to achieving the above goals and strategies.

Program Table - Hectares Treated, Midcoast TSA, August 1998

Year	Surveys	Backlog Brush / Conifer Rel	Space	Prune	Fertilize	Total
1	2,500	60	510	400	400	3,870
2	2,500	60	510	400	400	3,870
3	2,000	60	510	400	400	3,370
4	1,500	60	510	400	400	2,870
5	1,500	60	510	400	400	2,870
Subtot Yr 1 - 5	10,000	300	2,550	2,000	2,000	16,850
6 - 10	7,500	-	2,550	2,000	2,000	14,050
Total Yr 1 - 10	17,500	300	5,100	4,000	4,000	30,900
Unit cost ($/ha)	100	1,083	1,612	2,000	1,000	

Program Table - $ 000s, Midcoast TSA, August 1998

Year	Surveys	Backlog Brush / Conifer Rel	Space	Prune	Fertilize	Total
1	250	65	822	800	400	2,337
2	250	138	822	800	400	2,410
3	200	138	822	800	400	2,360
4	150	138	822	800	400	2,310
5	150	138	822	800	400	2,310
Subtot Yr 1 - 5	1,000	617	4,110	4,000	2,000	11,727
6 - 10	750	-	4,110	4,000	2,000	10,860
Total Yr 1 - 10	1,750	617	8,220	8,000	4,000	22,587

Job Outcomes

The following are the anticipated job outcomes of the preceding program, assuming the program is maintained into the future as necessary to achieve the working targets.

Program Job Outcomes, Midcoast TSA, August 1998

Short term *employment associated with undertaking the silviculture activity, in person years*

Year	Surveys	Backlog	Space	Prune	Fertilize	Total
1	1.4	1.1	12.3	24.4	0.2	40
2	1.4	1.1	12.3	24.4	0.2	40
3	1.1	1.1	12.3	24.4	0.2	39
4	0.8	1.1	12.3	24.4	0.2	39
5	0.8	1.1	12.3	24.4	0.2	39
Subtot Yr 1 - 5	6	6	62	122	1	196
6 - 10	6		62	122	1	191
Total Yr 1 - 10	11	6	123	244	2	387

Note: Assumes 180 days of silviculture work = 1 job (Source: Jobs and Timber Accord)

Long term *employment associated with improved quality and quantity of the timber resource*[1]

Decade	Harvest Increment ('000 m3)	Incremental Jobs			
		per year by decade		Total by decade	
		TSA[2]	Prov[3]	TSA	Prov
1	-	-	-		
2	40	6.4	64.0	64	640
3	51	8.2	81.6	82	816
4	34	5.4	54.2	54	542
5	100	15.9	159.2	159	1,592
6	100	16.0	160.0	160	1,600
7	100	16.0	160.0	160	1,600
8	190	30.4	304.0	304	3,040
9	190	30.4	304.0	304	3,040
10	190	30.4	304.0	304	3,040
11	190	30.4	304.0	304	3,040
12	190	30.4	304.0	304	3,040
13	190	30.4	304.0	304	3,040
14	190	30.4	304.0	304	3,040
15	190	30.4	304.0	304	3,040
16	190	30.4	304.0	304	3,040
17	190	30.4	304.0	304	3,040
18	190	30.4	304.0	304	3,040
19	190	30.4	304.0	304	3,040
20	190	30.4	304.0	304	3,040
21	190	30.4	304.0	304	3,040
22	190	30.4	304.0	304	3,040
23	190	30.4	304.0	304	3,040
24	190	30.4	304.0	304	3,040
25	190	30.4	304.0	304	3,040
Total				6,151	61,511

Notes

Assumes continuation of on the incremental silviclture program beyond the first 10 years, in accordance with the strategy. The total harvest increment is associated with all the silvicultural practices documented in the "Opportunities" section and is only partly attributable to spacing and fertilization practices. Some of the increase may be associated with pre-free growing silviculture that was not current practice at the time of TSR1.

Assumes 0.16 TSA level harvesting and processing jobs (PYs) per 1000 cubic metre (Source: Mid Coast SEA)

Assumes 1.6 Provincial level harvesting and processing jobs (PYs) per 1000 cubic metre (Source: Mid Coast SEA)

References

B.C. Ministry of Forests. 1991. *Regional Stand Tending Guidelines*. Vancouver Circular Letter VR91-558. Vancouver Forest Region, Nanaimo, British Columbia. 24p + Appendices.

________. 1993. *Mid Coast Timber Supply Analysis*. Timber Supply Branch, Victoria, British Columbia. 84p.

________. 1996. *Forest Management Issues identified Through the AAC Determination Process*. Timber Supply Branch, Victoria, British Columbia. 331p.

________. 1997a. *Summary of Timber Supply Review Results 1992 to 1996*. Timber Supply Branch, Victoria, British Columbia. 20p.

________. 1997b. *Assumptions Included in Timber Supply Analyses: Timber Supply Areas & Tree Farm Licences*. Forest Practices Branch, Victoria, British Columbia. 115p.

________. 1998a. *Guidance towards Participation in the Forest Renewal BC Planning Process and the Development of Resource Management Plans*. Victoria, British Columbia. 20p.

________. 1998b. *Vancouver Region Incremental Silviculture Objectives*. Handout. Vancouver Forest Region, Nanaimo, British Columbia. 1p.

________. 1998c. *Mid Coast Forest District Five Year Silviculture Plan 1998 - 2002*. Mid Coast Forest District, Hagensborg, British Columbia. 3p + Attachments.

________. 1998d. *Mid Coast Forest District Backlog Program Status*. Mid Coast Forest District, Hagensborg, British Columbia. 1p + Attachments.

Pedersen, L. 1994. *Mid Coast Timber Supply Area Rationale for Allowable Annual Cut (AAC) Determination*. Victoria, British Columbia. 49p + Attachments.

Timberline Forest Inventory Consultants Ltd. 1997. *Forest Level Benefits to Commercial Thinning and Fertilization*. Prepared for the B.C. Ministry of Forests, Forest Practices Branch, Victoria, British Columbia. 64p.

September 30, 1999

INCREMENTAL SILVICULTURE STRATEGY

A COMPONENT OF THE QUEEN CHARLOTTE ISLANDS FOREST DISTRICT

2000
RESOURCE MANAGEMENT PLAN

(fo program update refer to 2000 activity template)

Queen Charlotte Timber Supply Area

Incremental Silviculture Strategy (Interim)

-- Version 1.1 --

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British Columbia
Ministry of Forests

Funded By

Forest Renewal BC

September 14, 1998

STRATEGY AT A GLANCE

Working Targets

The Queen Charlotte TSA has limited ability to overcome forecast reductions in timber supply. To offset this, ensuring future timber quality is particularly important.

Quantity: Manage mid-term timber supplies to yield a harvest of 260 000 m3/yr and long term supplies to yield 340 000 m3/yr.

Quality: Manage regenerated stands to yield 8% premium logs by volume, with the majority of the remainder being of good grade sawlog quality.

Product Objectives

The following are product objectives at the log level for the Queen Charlotte TSA.

Premium Log:	Pine pole	30+ cm min dia over 15 m, few knots (pole).
	Cedar pole	as above but younger age class.
	Cedar large timber:	min. 45 cm & low taper for 10 m, mature wood.
	Spruce/Hemlock clear	clear for 2.5 m log, diameter not as important.
Sawlog:	Minimum average 45 cm DBH and stand vol. of 350 m3/ha.	

Major Silvicultural Strategies

Quantity

(Some of the following are not within the traditional scope of incremental silviculture but are included here for completeness.)

1. Increase regenerated stand yields 15% and reduce minimum harvest ages by 10 years by
   - reducing time to regeneration;
   - using A class seed or better (requires tree improvement for hemlock & cedar);
   - using large planting stock; and
   - fertilizing 200 ha/yr of cedar-salal sites or zonal sites (post free-growing).
2. Other strategies, particularly commercial thinning of younger existing stands, may commence approximately 50 years from now.

Quality

1. One-lift prune (5.5 m) all spaced zonal hemlock and spruce stands (150 ha/yr).
2. Manage selected stands to higher densities to yield pole-sized trees.
3. Space 400 ha/yr to increase piece sizes and prepare stands for pruning.

Habitat

1. Rehabilitate 60 ha/yr of riparian habitat through conifer release, spacing and planting.

Note: For Current Fire and Pest activities planned, see Section E "Program Summary"

Incremental Silviculture Program (Ha)

Program Table - Hectares Treated, Queen Charlotte TSA, July 1998

Year	Surveys	Backlog Brushing	Riparian Rehab	Space	Prune	Layout	Fertilize	Total
1	2,000	90	60	400	150	550	200	3,450
2	2,000	-	60	400	150	550	200	3,360
3	2,000	-	60	400	150	550	200	3,360
4	2,000	-	-	400	150	550	200	3,300
5	2,000	-	-	400	150	550	200	3,300
Subtot Yr 1 - 5	10,000	90	180	2,000	750	2,750	1,000	16,770

Introduction

About the Interim Strategy

The terms of a service agreement between Forest Renewal BC (FRBC) and the BC Ministry of Forests (MoF) require the MoF to develop, and FRBC to fund, what is essentially an incremental silviculture strategy. This document is in fulfillment of this contractual requirement.

Incremental silviculture is part of a suite of strategies which together may influence the future quality and quantity of habitat and timber supply. This strategy document broadly analyzes the full range of potential silviculture activities in order to create a context for an incremental silviculture strategy.

An incremental silviculture strategy should not be confused with the allowable annual cut (AAC) determination process. AAC's are based on actual practice and current information at the time of the determination. This strategy, on the other hand, is about creating a future state of our forests. The degree to which the strategy proves appropriate and is achieved may influence future, but not necessarily present, AAC determinations.

This strategy is founded on readily available information and the knowledge of forestry professionals. It is intended as an interim strategy until a more in-depth analysis-based review is completed.

Methodology

This strategy was prepared through the following process:

1. Prior to the district working session, L. P. Atherton & Associates prepared a preliminary draft of this document, summarizing all available information relevant to a strategy and identifying opportunities to improve the future quantity and quality of timber supply.
2. A district working session was held July 8, 1998 in Queen Charlotte City, attended by representatives of the MoF and forest licensees of the Queen Charlotte TSA. Larry Atherton of L. P. Atherton & Associates and Doug Williams of Cortex Consultants Inc. led the session. Participants reviewed the potential opportunities identified in the draft document along with others that arose. The outcome of the session was a regime table, complete with priorities.
3. The consultants incorporated the results of the working session into the draft document and added forecasts of future harvest quantity and quality and of job outcomes.
4. After ministry review, the consultants submitted a completed strategy document to the MoF in electronic format as version 1.0. (The ministry will assign higher version numbers (e.g., 1.1, 1.2, etc.) as the strategy evolves and changes are made.)

Acknowledgments

The participation of representatives of the following organizations at the district working session is gratefully acknowledged.

Ministry of Forests:

- Queen Charlotte Forest District
- Vancouver Forest Region.

Forest licensees of the Queen Charlotte TSA:

- TimberWest
- Husby Group of Companies

The project was managed by Mr. Larry Sigurdson of the Ministry of Forests, Vancouver Forest Region. Funding was provided by Forest Renewal BC.

Basic Data

All charts are with respect to the net timber harvesting land base.

Land Area

Description	Area (ha)	Area %
Total Area of TSA	464 800	100
Total Productive Crown Forest	348 400	75
Net Timber Harv. Land Base	60 400	13

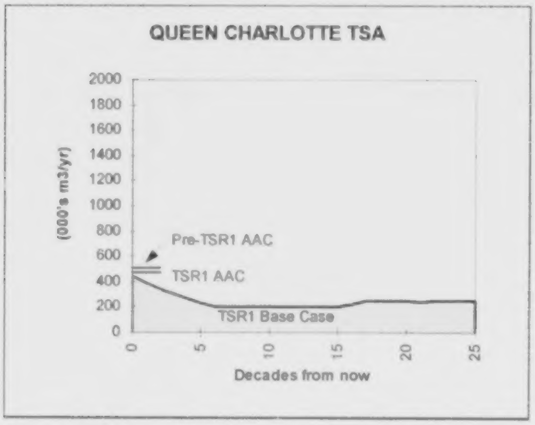
Source: TS analysis report - rounded to nearest 100 ha.

AAC

AAC Type	Pre-TSR	TSR1*	Change (%)
Conventional	509 861	400 000	-21.5
Deciduous	-	-	-
Insect/Disease	-	-	
Marginal	-	75 000	∞
Total	509 861	475 000	-6.8
Woodlot AAC		4 474	

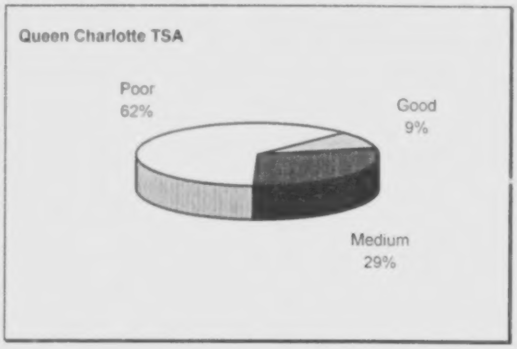
*effective May 1/96

Harvest Forecast

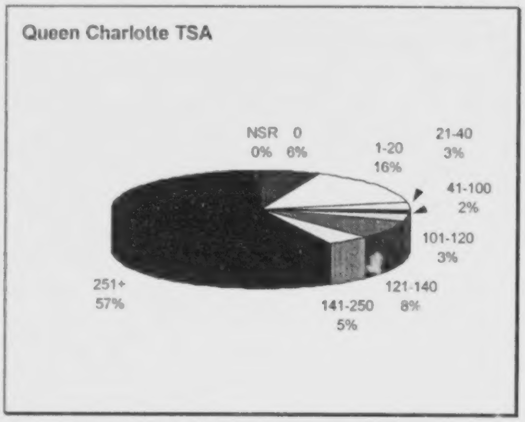


Base case does not include 75 000 m3/yr partitioned AAC for cedar sites.

Site Class

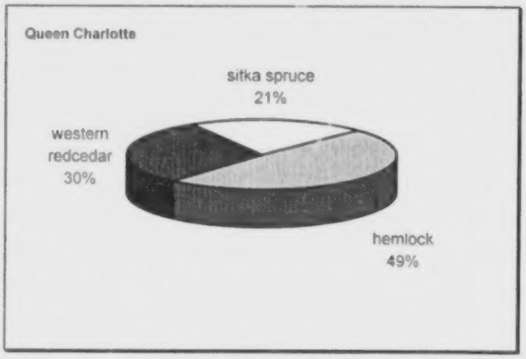


Age Class



Data scaled from chart in TS analysis report.

Tree Species



Issues

Individual Issue Analysis

The following information is primarily from documentation produced under the first timber supply review, or TSR1. Sources are noted, with full references given on page **Error! Bookmark not defined.**. Only information which is relevant to an incremental silviculture strategy is recorded. Key statements are bolded.

Abbreviations: AAC - allowable annual cut; THLB - timber harvesting land base; IHL - initial harvest level; LTHL - long term harvest level; CF - chief forester; TSR - timber supply review.

♦ Harvest Forecast	Initial harvest level of 442 000 m3/yr (14% below the pre TSR AAC of 509 861 m3/yr) can only be maintained for one decade, followed by declines at the rate of 12%/decade over the next five decades to a mid term level of 205 000 m3/yr (60% below the pre-TSR AAC, 54% below the IHL) 60 years from now, rising to a long term harvest level at the beginning of decade 18 of 248 000 m3/yr (51% below the pre-TSR AAC, 44% below the IHL). (rationale, 11) In general, increased yields from regenerated stands do not show their effect until about decade 18 when the last of the older stands have been harvested (analysis, 36). The base case does not include the 13 000 ha of low volume cedar stands the CF determined could contribute to timber supply through a partitioned AAC of 75 000 m3/yr. A sensitivity analysis with this included indicates an IHL of 473 000 m3/yr and could significantly reduce the base case shortfall between decades 11 and 18. (rationale, 13)
♦ Age Class	**Approximately 75% of THLB in stands aged 121+** (rationale, 16). The preponderance of old growth results in the unique situation where the removal of all forest cover constraints has relatively little effect over the base case (about 3% higher over short and mid term and < 1% higher over the long term). (analysis, 33) Presumably the need to step down the harvests to have an orderly transition to second growth also meets the majority of constraints in the process. Only 8% of THLB in stands aged 21-120, resulting in mid term harvest levels below LTHL for an extended period. (rationale, 16)
♦ Forest Cover	*IRM Zone*: 77% of THLB. Base case requirement of at most 25% of THLB permitted to be < 5 m tall (4 pass system). (analysis, 14) Sensitivity test of ± 1 pass (20% and 33%). Insensitive to either as the area less than 5m never exceeded 18%. (analysis, 30) *Visual Quality Zones*: 23% of THLB. Base case requirement of at most 5% (retention areas), 15% (partial retention) to be < 5 m tall. (analysis, 13-14) Sensitivity analysis indicates that the short term timber supply is relatively insensitive to a relaxation of forest cover objectives for visual quality. (rationale, 22) *Green-up*: Green-up age 13 years for all zones to reach a ht of 5 m (analysis, 56). Sensitivity test of ± 5 and ± 10 years. (analysis, 29-30) Relaxation: (- 5, 10 yrs) Relatively insensitive over all terms. Increase: (+ 5, 10 yrs) Insensitive to a 5 yr increase. Moderately sensitive in short and mid term to a 10 yr increase, with the IHL 2% below base case and the rate of decline increased from 12% to 16% until the same mid term shortfall level as in the base case is reached.
♦ Backlog NSR	70 ha of backlog NSR. Assumed to be restocked within 2 years. (rationale, 19)

◆ Quality	• 142 085 ha of problem forest types completely deducted (low site, pine or alder dominant species). (analysis, 8, 50) • CF determines in AAC rationale that 13 000 ha low site cedar may be operable and creates 75 000 m3 partitioned AAC. (rationale, 14)
◆ Older Forests	Base case includes a requirement for at least 6% of the THLB be > 150 yrs old in all management zones (analysis, 13-14). Sensitivity analysis of 0%, 4%, and 8%. (analysis, 32) Relaxation: (0%, 4%) 4% level virtually unchanged from base case over all terms. 0% level allows slightly higher harvest levels over short and mid term, and a rise to LTHL 2 decades earlier than the base case. Increase: (8%) Harvest forecast nearly identical to base case, except rise to LTHL delayed by 2 decades.
◆ Min. Harvest Ages	Range from 100 - 150 years, based upon age trees reach 45 cm DBH and stand vol. of 350 m3/ha. If neither criteria met by 150 yrs, min harvest age set at 150. (rationale, 18) Sensitivity analyses of ± 10 and ± 20 yrs. Very minor sensitivity in mid and long term to 10 yr change. (analysis 27 - 29) Decrease: (- 20 yrs) Very minor sensitivity long term (1% below base case), resulting from harvesting trees before culmination. See also "Estimates of Timber Volumes," below. Increase: (+20 yrs) **Short and mid term highly sensitive**. Initial harvest level 6% below base case, then falling 20%/decade for the next 3 decades to reserve more volume for decades 12 to 20 where the transition from old to second growth occurs. Rise to LTHL delayed by 2 decades, but LTHL otherwise unchanged.
◆ Silvicultural Systems	Most of the THLB is currently managed under a clearcut harvesting system. (Participants at the district working session indicated almost all cut-over areas are planted.) Some harvesting planned as clearcut with reserves. CF notes potential for this to decrease short term harvests. (rationale, 20)
◆ Estimates of Timber Volumes	VDYP used for all existing stands. TIPSY used for regenerated stands. OAF1 - 15%, OAF2 - 5% (analysis, 58) (Participants at the district working session felt an OAF1 of 15% to be appropriate as are many small voids in stands due to either rock or swampy terrain). *Existing stand volumes*: Sensitivity test for ± 10% and ± 20% in volume. (analysis, 34-35) Highly sensitive to both in short and mid terms. Long term insensitive as is affected by regenerated volumes, not existing volumes. Increase: (+10%) **Highly sensitive**. Harvest levels 16% - 20% above base case, for 1st 6th decades (visual estimate from chart), reaching the base case mid term shortfall level 2 decades later than base case. (+20%) **Highly sensitive**. Harvest levels 16% - 20% above base case, for 1st 6th decades (visual estimate from chart). **Base case trough below LTHL eliminated**. Decrease: (-10%) **Highly sensitive**. Initial volumes reduced 14% below base case for 1st 5 decades and 6% below base case mid term shortfall. (-20%) **Highly sensitive**. Alternative 1 - short and early mid term reductions below base case slightly less than that of a 10% decrease, mid term trough 20% lower than base case (160 000 m3 vs. 205 000 m3). (At the district working session, district and licensee staff indicated they suspect existing

	mature stand volumes are underestimated.) *Regenerated stand volumes*: Sensitivity test for ± 20% in volume. Short term insensitive to either. Highly sensitive to both in long term. (analysis, 36-38) Increase: (+20%) Slight mid term raise. LTHL 21% higher than base case, starting to rise from mid term shortfall 160 years from now. [This increases the magnitude of the mid-term dip below LTHL - potential for commercial thinning?] When combined with a 10 yr decrease in min. harvest ages, raises **mid term 7%**[1] above the base case (analysis, 37-38). Decrease: (-20%) LTHL 21% lower than base case. Same as trough in base case.
◆ Deer Browsing	Deer browsing of cedar seedlings is a significant problem, creating extraordinary regeneration expense for licensees. (At the district working session, licensees indicated they are pursuing some incremental silviculture funding support on the basis that deer are an introduced species to the Queen Charlottes.)
◆ Site Productivity	District staff expect site productivity has been underestimated, especially regarding site indexes for Sitka spruce. However, CF finds that if this proves true it would not influence short term harvest levels. (rationale, 17) Early indications are that site indices of some spruce and cedar sites may be underestimated by 10-15%. More samples are required before conclusions may be reached regarding hemlock site indices. (District working session).
◆ Increased Land Base	The addition of 13 000 ha for low volume cedar stands (see "Quality," above) increases the THLB. Another 1 300 ha of timber licences will revert to the THLB after 25 years from now, which **the CF considers to represent and increase in timber supply in the medium and long terms of approx. 5 000 m3/yr**. (rationale, 14) Together, these represent a 24% increase in the THLB. Because the cedar sites are of low productivity, the effect on future harvest levels will be less than proportional. A sensitivity test in the analysis report indicates that a 20% increase in the THLB would result in a 20% increase to both the mid and long term timber supply. (analysis, 38-39) (The cedar sites would increase harvest levels over all periods, because they presently contain timber volumes. The timber licence area will increase levels only in the longer term, because they hold no harvestable timber when they revert to the THLB.)

Summary of Issues by Period

Short Term: 1-20 years

A very high proportion of mature timber makes this TSA insensitive in the short term to most factors other than:

- a 20 year increase in minimum harvest ages, resulting in an immediate 6% decrease in harvests (however, there is only a minor sensitivity to a 10 year increase); and
- a 10% increase or decrease in existing stand volumes, which result in immediate ± 14% corresponding changes in harvest levels.

Mid Term: 21 - 180 years

The Queen Charlotte TSA has a preponderance of old growth (70% aged 121+) and a dearth of middle-aged stands (8% aged 21-120 years). The shortage of younger existing stands coupled with high minimum harvest ages for regenerated stands (110 - 150 yrs) results in an extraordinarily long mid term period at a level below the long term harvest level. This is because of the need to ration the available older timber across this period until regenerated stands become available.

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[1] Analysis report notes the effect to be "4% higher than in the case of increasing yield estimates alone." No mid term figure for increasing yield estimates alone is given. Estimated at 3% for a total of 7%.

Ordinarily, the combination of a shortage of younger existing age classes coupled with high minimum harvest ages would result in a high sensitivity to minimum harvest ages, but this is not the case in this TSA. This may be due to the large amount of poor site land having low volumes. When lower minimum harvest ages are combined with 20% higher regenerated stand volumes, a 4% increase in mid term volumes results.

In the Queen Charlotte TSA, the same sensitivities exist in the mid term as in the short term. Generally, these only have an influence over the first 50 or so years of the mid term period, except that a 20% increase in existing stand volumes eliminates the mid term shortfall over the period 60 to 180 years from now.

Long Term: 181+ years

The long term is only sensitive to increases or decreases in regenerated stand volumes. A 20% increase or decrease in regenerated stand volumes results in a corresponding 21% increase or decrease to the long term harvest level.

Future

The timber supply review could not take into account the impact of the Forest Practices Code, as the changes had yet to be seen in practice. Implementation of the code is likely to have a downward effect on timber supplies.

Incremental Silviculture History

Approximately 800 ha are harvested annually. (QCFD[2])

Treatment	Incorporated in Timber Supply Analysis	Not Incorporated in Timber Supply Analysis
◆ Backlog	70 ha restocked in next 2 years.	
◆ Conversion		
◆ Commercial Thin		
◆ Space	45 - 50% of harvested areas are spaced (rationale, 20). CF satisfied this is reflected in timber supply analysis. No additional opportunity suggested in the analysis.	
◆ Prune		None indicated in timber supply analysis. Recent level approx. 150 ha/yr, mostly a single 5m lift (QCFD).
◆ Fertilize		None indicated in timber supply analysis. Periodic fertilization undertaken (QCFD).

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[2] QCFD - Queen Charlotte Forest District.

Treatment	Incorporated in Timber Supply Analysis	Not Incorporated in Timber Supply Analysis
◆ Space/ Prune		Only spaced stands are pruned.

Higher Level Goals and Objectives

This section documents higher level goals and objectives relevant to an incremental silviculture strategy for the TSA.

Provincial Goals

Fundamentally, government's goals can be characterized as:

- sustainable use;
- community stability; and
- a strong forest sector. (MoF, 1998a)

Provincial Objectives

Until provincial targets for timber quantity and quality are established, management unit strategies are to consider the following interim provincial strategic objectives (MoF, 1998a). Incremental silviculture strategies must also be in keeping with higher level plans under the Forest Practices Code.

Objective 1:	Maintain current harvest levels as long as possible without creating disruptive shortfalls in future timber supply.
Objective 2:	Create a long term timber supply capable of supporting a steady long term provincial harvest level similar to current levels.
Objective 3:	Minimize the interim shortfall in provincial harvest anticipated before a steady long term timber supply is achieved.
Objective 4:	Create a long term timber supply which will enable the timber quality profile of future harvests to be the same or better than the current profile.

It is recognized that not every management unit has the same capability to contribute to these interim objectives. Further, it is recognized that these objectives may not be attainable at current funding levels. Their purpose is to provide general guidance to the application of available funds.

Regional Objectives

The objectives of the regional incremental silviculture strategy are to:

- Ensure a long term sustainable harvest which approximates the current harvest value and volume levels and that produces a diversified mix of products necessary to create and maintain sustainable forest employment.

- Balance treatments that enhance growth and yield such as fertilizing, spacing and forest health activities with those that increase the value of the wood such as pruning.
- Utilize incremental silviculture treatments to contribute to sustainable management of non-timber values at the landscape level. (MoF, 1998b)

Opportunities to Increase Timber Supply

Opportunities Indicated Through TSR Sensitivity Analyses

TSA modelling in support of planning incremental silviculture has not yet been undertaken. In its absence, sensitivity analyses from the TSR1 analysis report are the best source of information as to the opportunities for incremental silviculture to increase future timber supply. The following are selected sensitivity analasysis charts from the TSR1 analysis report, to which opportunity information is added. Detailed analyses are required to confirm the indicated effects.

Since the TSR 1 analysis report for the Queen Charlotte TSA, the chief forester created a partitioned AAC for marginal cedar stands. Thus, while the sensitivity analyses shown below may indicate certain potential results from silvicultural actions, they are not directly comparable with the TSR1 AAC.

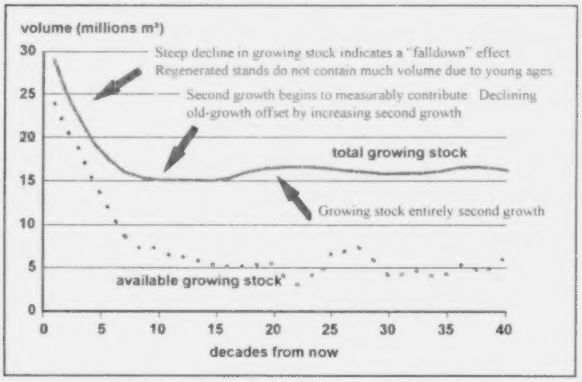


Figure 1. Changes in growing stock over time, Queen Charlotte TSA

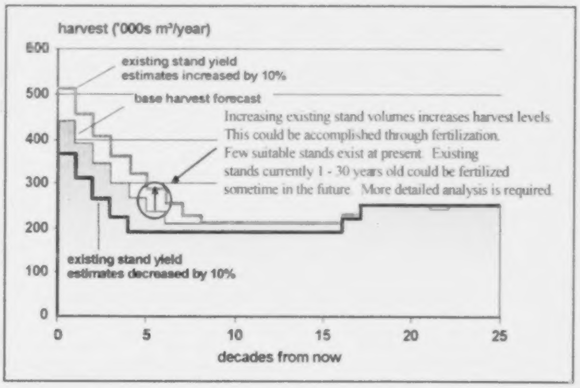


Figure 2. Opportunity to increase harvest levels by increasing existing stand volumes, Queen Charlotte TSA

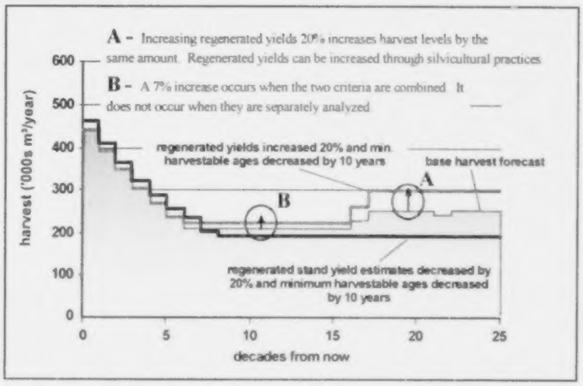
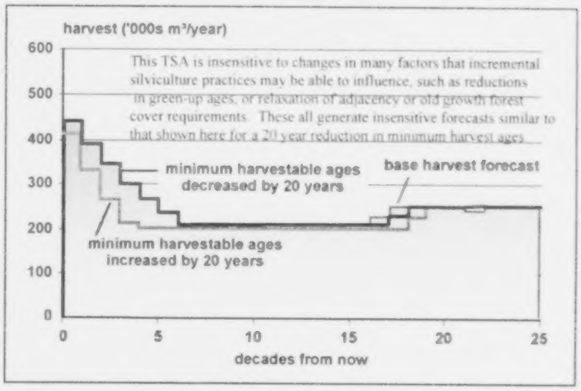


Figure 3. Effects of increasing regenerated stand volumes and reducing minimum harvest ages, Queen Charlotte TSA



This TSA is insensitive to changes in many factors that incremental silviculture practices may be able to influence, such as reductions in green-up ages, or relaxation of adjacency or old growth forest cover requirements. These all generate insensitive forecasts similar to that shown here for a 20 year reduction in minimum harvest ages

Figure 4. Insensitivity of the Queen Charlotte TSA to many factors

Preliminary Identification of Silviculture Opportunities

Information in the previous sections indicates the following silvicultural strategies may have potential to increase future timber supply. The general insensitivity of the TSA to most factors indicates comparatively few opportunities to increase timber supply. Each of the potential strategies was discussed in detail in the district working session, the results of which are recorded in "**Error! Reference source not found.**," page **Error! Bookmark not defined.**, along with additional strategies that arose during the meeting. Strategies that are ultimately adopted are noted in "**Error! Reference source not found.**," page **Error! Bookmark not defined.**.

Short Term (1 - 20 yrs)

ST 1 No short term strategies were identified.

Mid Term (21 - 180 yrs)

MT 1: Fertilize older existing immature stands to increase their yields.

MT 2: Use spacing / CT / fertilization regimes commencing in about 50 years to bring forward volumes from the long term.

MT 3: Increase regenerated stand volumes 20% and reduce minimum harvest ages 10 years through a variety of silvicultural practices.

Long Term (181+ yrs)

LT 1: increase regenerated stand volumes 20% as above.

Available Information Regarding Potential Treatments and Treatable Area

This section summarizes available information directly relevant to the potential treatments for the TSA.

Treatment	Comment	Treatable Area
◆ Spacing	District records indicate 300 - 600 ha/yr were spaced over the last 10 years. % of stands spaced by age group as of 1998: Age % spaced 1 - 10 60 11 - 20 70 21 - 30 40 31 - 40 5 With the recent raising of the basic spacing requirement to 10 000 stems/ha, most spacing in future is likely to be post free-growing and therefore incremental. The maximum density threshold of 10 000 may change in the near future, but it is unlikely to be less than 10 000 stems/ha.	Virtually all treatable area is currently being spaced.
◆ Fertilization	**Cedar.** Results from the SCHIRP project on northern Vancouver Island indicate a significant response in salal/cedar stands to an early fertilization, the object of which is to give the cedar an early boost and obtain crown closure over the salal. Timing of treatment is important. This appears to also be the case in the Charlottes. **Hemlock**. There is some debate as to the response of Hemlock stands to fertilization. **More trials are needed to confirm**. **Spruce**. Sitka spruce responds favourably to fertilization, except for the richest sites. The district working session examined the opportunity to increase existing stand volumes through fertilization. It was concluded that there were few suitable stands available due to the age class structure of the TSA. There is only about 1 000 ha in stands currently aged 40 - 100 yrs. Approximately 8 000 ha are currently aged 120 to 140 yrs and have good access and are suitable for fertilization. Unfortunately, their position in the harvest queue (a significant proportion of older stands will be harvested before them) means they won't be harvested for another 50 - 80 years, making them too old for effective treatment.	**Cedar**. A significant amount of treatable young cedar exists. The partitioned AAC for cedar types will add more treatable area.
◆ Commercial Thinning	No CT to date. May be possible to partially offset age class problem which causes mid term harvest levels to drop below long term levels. High risk of damage to residual stems in hemlock. Currently there is no market for CT material - cost to get it to the mainland is too high for the value of the material. Would likely have to be a local demand before it could be profitable.	Currently few suitable timber types on accessible terrain.
◆ Backlog NSR	All backlog NSR has been treated. Approx. 120 ha of brushing is required to ensure backlog areas reach free-growing.	None.
◆ Problem Forest Types	Approximately 142 000 ha of low site stands, pine and alder-dominated stands were removed from the THLB as non-merchantable, with 13 000 ha of cedar subsequently added back in on a partitioned AAC basis by the chief forester. At this time there appears to be little additional opportunity for increasing the THLB by silviculturally treating any of this area.	129 000 ha.

Potential Strategies by Response Time Frame

This section documents the discussions and outcomes of the district working session.

In the AAC rationale, the chief forester identified a number of potential downward influences on timber supply. For the purposes of this strategy, however, a status quo is assumed with respect to these. Should any arise, the indicated strategies would serve to mitigate their effects rather than increase timber supply.

Explanatory notes with respect to the following tables:

Column Number	Note
1	The response time frame is the period in which the anticipated result is expected, not the period in which actions must necessarily commence.
2	Strategy numbers correspond with the numbers recorded earlier in "**Error! Reference source not found.**," page **Error! Bookmark not defined.**. Items followed by an * were added during the district working session.
3	Information in this column is largely from the district working session, combined with information presented earlier in this document. Potential treatment regimes are highlighted in bold print.
4	Anticipated results are calculated using the timber supply response indicated by TSR1 sensitivity analyses.
5	The harvest forecast for the short term uses the TSR1 AAC as the starting level in the first decade and the TSR1 base case reduction between the first and second decades. Mid and long term harvest forecasts take the base case levels from TSR1 as the starting levels. The harvest forecast for these periods contains a 20% adjustment to reflect the increases in the THLB associated with the partitioned AAC for 13 000 ha of low-volume cedar and additional reversion of timber licences that are not accounted for in the base case (see "Increased Land Base" under "**Error! Reference source not found.**," page **Error! Bookmark not defined.**). The harvest forecast column was not thoroughly reviewed during the district meeting. *Results are largely conjecture and are meant to illustrate the potential of the strategies.*

Response' Time Frame	**Potential Strategy/Action**	**Discussion / Current Status**	**Anticipated Result**	
◆ Short Term (1 - 20 yrs)	1. No direct silviculture actions are proposed for the short term.	1. The preponderance of old age stands limits potential to increase short term harvest levels.	1. Reduction of short term harvest levels as per base case forecast.	475 - 1st dec. - 57 - 12% 418 - 2nd dec.
	2. Complete the inventory audit to determine if existing stand volumes are underestimated.*	2. An inventory audit is underway. Existing volumes are thought to be underestimated. If this proves the case, harvest levels could be higher than the base case but will still undergo a significant reduction over time.	2. This is not factored into this harvest forecast as doing so would be purely speculative.	
◆ Mid Term (21 - 180 yrs)	1. Fertilize older existing immature stands to increase their yields.	1. Not an option. There is very little area aged 50 - 100 years. See "Fertilization" under "**Error! Reference source not found.**," page **Error! Bookmark not defined.**.	1. N/A	205 - base case 41 - THLB incr 246 12 - 5% rgn vol 258 ≅ 260
	2. Reduce shortfall below LTHL by using spacing/CT/fertilizing regimes commencing in about 50 years to bring forward volumes from the long term.	2. Would not commence until 50 yrs from now. Has implications for current spacing densities to enable CT at the appropriate time. **All treatable stands are being spaced**. H stands have high risk of disease & fert response is variable. See "**Error! Reference source not found.**."	2. Requires modelling. Benefit likely to accrue to decades 14 - 17 as this is when vol's can be brought forward from long term.	
	3. Increase regenerated stand volumes 20% and reduce minimum harvest ages by 10 years by:	3. Sensitivity analysis indicates this combination could increase MT harvest levels by 7%.	3.	
	(a) reducing time to regeneration;	3. (a) Current regen delays are 3 - 6 years and could be reduced. However, this is a basic silviculture responsibility and may not change without funding assistance as free-growing can be met within these delays.	(a) could gain possibly a 2 yr reduction in min ages.	
	(b) using A class seed or better;	(b) All sitka is A seed, some other is A. Cedar currently indicated to have low gain. Latest estimates of yield gains are (%):[3] Species — 1st gen — 2nd gen Hemlock — 3 — 20 Cedar — 3 — 10 Spruce — 3 — 15	(b) probably 3% vol gain for now, but 20% possible. Assume ⇒ 10%. Will also reduce min ages. Assume 5 yrs.	

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[3] Source: participants at Chilliwack district meeting.

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	
◆ Mid Term (cont'd)	3.	3.	3.	See above.
	(c) using large planting stock;	(c) Trend is towards larger stock because of free growing and adjacency concerns. Larger stock is more costly to transport. Some 615d and 1 gal Cw planted.	(c) volume impact unknown. Assume ⇒ 1%. Could reduce min ages 2 yrs.	
	(d) fertilizing regenerated stands where efficacy is proven.	(d) about ½ of plantations fertilized w tea bags. Little other fert at present. Hemlock fert possible but need to have better understanding of response. Costs can be prohibitive. Some opportunity to fertilize cedar-salal sites. **Approx 200 ha/yr could be treated**.	(d) assume 2/3rd's of cedar is cedar-salal requiring a single fert = approx 20% of THLB. If 10% vol gain = .1 X .2 ⇒ 2%	
	(e) reduce voids to 10% of stand area.	(e) consensus that the present TIPSY OAF1 factor is appropriate.	(e) none. In total, indications are a 10 yr min age reduction and 15% regen vol. gain is possible = 3/4's of sensitivity test vol ∴ = (.75 X 7%) ⇒ 5%.	
	4. Complete site index estimation studies.*	4. Underway. Will have mid term effect if site indices prove underestimated.	4. N/A - Increased site productivity may compound some effects.	
◆ Long Term (181+ yrs)	1. Increase regenerated stand yields 20% as above.	As above.	As above. ⇒ 15%	248 - base case 50 - THLB incr 298 45 - 15% rgn 343 ≅ 340

Potential Harvest Forecast

Error! Reference source not found. graphs the potential harvest level that may be attained through implementation of the silvicultural strategies in the preceding tables. This forecast is highly speculative and requires confirmation through computer-based modeling and analysis. Modeling may also indicate more precise timing, targeting and program levels associated with incremental silviculture activities than could be developed in this interim strategy.

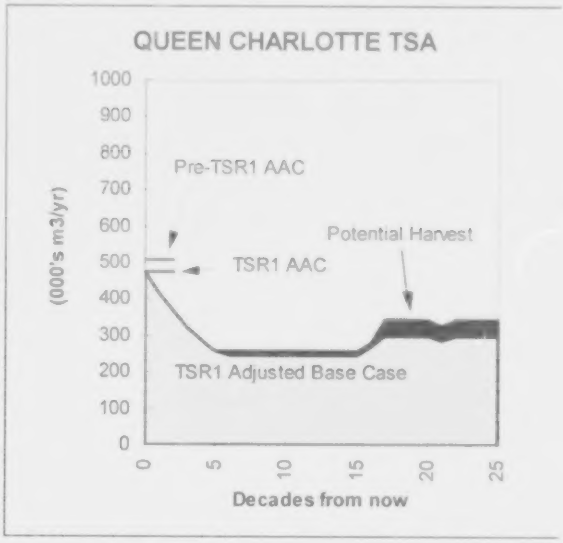

Figure 5. Potential harvest forecast, Queen Charlotte TSA

TSR 1 base case adjusted as follows:

- initial harvest level set at TSR 1 AAC;
- next 4 decades decreased at 12%/decade, same rate as TSR 1 base case;
- mid-term trough & long term increased 20% in recognition of a 25% increase in THLB associated with adding poor site cedar and reverted temporary tenures (not previously included in the base case). Because mostly poor site, a 20% factor was used rather than 25%.

Summary of Information and Research Needs

During the assessment process, the following needs for further information and research became apparent. The outcome of these have implications for an incremental silviculture strategy.

1. OAF 1 factor of 15% appears appropriate but requires confirmation. Survey techniques are available. Requires statistical validity at the management unit level if to be used for AAC determination.
2. Hemlock response to fertilization is variable. Were the causes for this determined there may be considerable potential for hemlock fertilization to improve the harvest forecast. A program of screening trials to determine the extent of treatment opportunities is required.

Opportunities to Improve Timber Quality

The effects of incremental silviculture on the future quality of the timber resource were not analyzed in the timber supply review. Information in this section was gathered during the district working session.

Product Objectives

The following are product objectives at the log level for the Queen Charlotte TSA.

Premium Log:	Pine pole	30+ cm min dia over 15 m, few knots (pole).
	Cedar pole	as above but younger age class.
	Cedar large timber	minimum 45 cm & low taper for 10 m, mature wood.
	Spruce/Hemlock clear	clear for 2.5 m log, diameter not as important.
Sawlog:	Minimum average 45 cm DBH and stand vol. of 350 m3/ha.	

Available Information Regarding Potential Treatments and Treatable Area

Treatment	Comment/ Potential Treatment Regimes	Treatable Area
◆ Spacing	Spacing can be used to control species selection. Density management can affect sizes and average diameters of stands at harvest. Spacing is a prerequisite for pruning.	60 - 70% of harvested area is currently being spaced.
◆ Commercial Thinning	Commercial thinning is not currently practiced in this TSA. It may have a role in the distant future. Not relevant to present day practices for managing timber quality.	Currently few suitable timber types on accessible terrain.
◆ Pruning	Pruning is done primarily on spaced zonal hemlock and spruce stands. High-site spruce will respond with epicormic branching, however, there is not much of this area, so it is included in the pruning program. Cedar is not currently pruned, much of it being on poorer site and not many stands are ready. Cedar tends to establish at lower densities, thus having large branches. There is thus some potential for a pruning program - more with the objective of eliminating large knots than to create clears. Because of costs associated with remote stands, a single pruning lift of 5.5 m is the normal practice.	Substantial.
◆ Fertilization	Currently fertilization is seen as more of a treatment for creating additional volume as opposed to additional value.	Substantial.

Potential Strategies by Response Time Frame

The following strategies have potential to increase timber quality. These were identified in the district working session. The response time frame is the period in which the anticipated result is expected, not the period in which actions must necessarily commence.

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result
◆ Short Term (1 - 20 yrs)	None	Short term harvests will come from existing very old stands which are not treatable to improve quality.	Quality profile of existing old growth will prevail. Assume this is equal to a recent coast-wide estimate of 15%.

15%?

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	
◆ Mid Term (21 - 180 yrs)	1. Prune 150 ha/yr to 5.5 m.	1. Because of cost, a single pruning lift is normal practice. **Spacing is a pre-requisite to pruning.**	1. 150 ha is approx 20% of annual area harvested. Assume 5.5 m log is 25% of tree vol. (.25 X .20) ⇒ 5%.	1. 5%
	2. Manage selected stands to higher densities to yield pole-sized trees.	2.	2. No estimate available. Assume 3% of future harvests will be poles.	2. 3%
				Total: 8%
	3. Unmanaged.	3. 6% of stands must be maintained at ages of 150 + years. However, min harv ages for poor sites are 150 yrs. Stands that are held to meet the old age requirement will therefore likely meet sawlog but not premium criteria. Spacing may result in longer limb retention and is not conducive to generating clear logs. 60-70% of stands are spaced.	3. Not expected to generate clear logs without pruning.	
	4. Space 400 ha/yr to increase avg. piece sizes.	4. The TSA has high harvesting and transportation costs. Spacing concentrates volume on fewer, larger logs, thus reducing future costs. Also brings harvest ages forward.	4. Sawlog oriented but pre-requisite to pruning. No premium log effect on its own.	
◆ Long Term (181 + yrs)	As above.	As above.	As above.	8%

Timber Quality Forecast

The foregoing analysis indicates future premium log content forecast for the mid and long term will be lower than today's levels (8% forecast vs. current estimate of 15%). A higher level of pruning program than planned would serve to improve future timber quality.

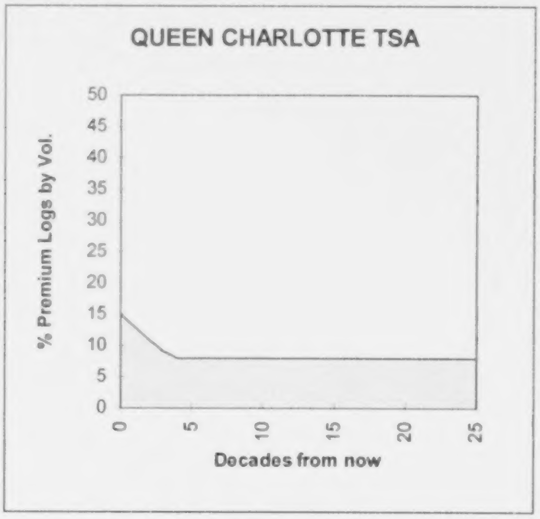

Figure 6. Potential Quality Forecast, Queen Charlotte TSA

Incremental Silviculture Strategy

This section synthesizes the preceding background information and analysis into an incremental silviculture strategy for the TSA.

General Strategy

The Queen Charlotte TSA has limited ability to overcome forecast reductions in timber supply. Central to increasing future timber supply is the use of 2nd generation or better improved seedlings. Ensuring future timber quality is particularly important. Spacing is needed to increase piece size and reduce future harvesting costs. Pruning is needed to ensure a reasonable level of premium logs in the future.

Working Targets

The preceding analysis indicates the following working targets are attainable. **Error! Reference source not found.** illustrates these.

WT 1 (Quantity):	Manage mid-term timber supplies to yield a harvest of 260 000 m3/yr and long term supplies to yield 340 000 m3/yr.
WT 2 (Quality):	Manage regenerated stands to yield 8% premium logs by volume, with the majority of the remainder being of sawlog quality.

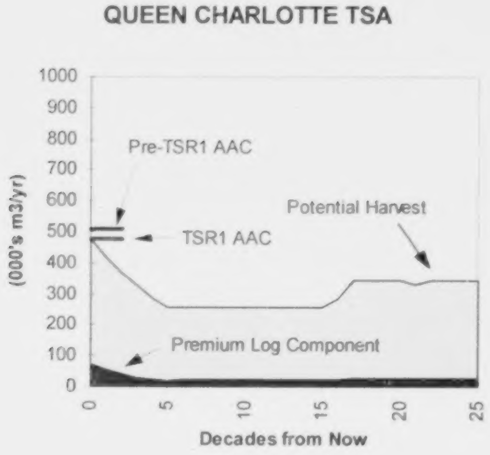

Figure 7. Combined Potential Quantity and Quality Harvest Forecasts, Queen Charlotte TSA

Log Product Objectives

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Silviculture Strategies

Strategies to Increase the *Quantity* of Future Timber Supply

The following strategies have identified potential to increase the quantity of the timber supply of the Queen Charlotte TSA. (Strategy numbers correspond with those recorded earlier.)

No.	Strategy
MT3	Increase regenerated stand volumes 15% and reduce minimum harvest ages by 10 years by: (a) reducing time to regeneration; (b) using (2nd generation) A class seed or better; (c) using large planting stock; and (d) tea bagging plantation seedlings and fertilizing 200 ha/yr of cedar-salal sites for early crown closure. (Note: some of these are pre free growing silviculture activities, and would not necessarily be funded by FRBC. Several Licensees on the Islands have expressed a desire to use FRBC funds to cover off some of the extraordinary costs associated with the regeneration of cedar, and of obtaining green-up more quickly—which are currently considered basic or pre-free growing activities.
LT1	Increase regenerated stand volumes 15% by continuing MT3 above.

Strategies to Increase the *Quality* of Future Timber Supply

The following strategies have identified potential to increase the quality of the timber supply of the Queen Charlotte TSA.

No.	Strategy
Q1	Prune 150 ha/yr to 5.5 m.
Q2	Manage selected stands to higher densities to yield pole-sized trees.
Q3	Space 400 ha/yr to increase avg. piece sizes and prepare stands for pruning.

Strategies to Increase the *Quantity* or *Quality* of Future Habitat Supply

(Note: The following strategy was developed in the district working session during discussion of the regime table. The discussion was not documented, so is presented here without prior reference.)

The following strategy has identified potential to increase the quality or quantity of the habitat supply of the Queen Charlotte TSA.

No.	Strategy
H1	Rehabilitate 60 ha/yr of riparian habitat through conifer release, spacing and planting.

Silviculture Regimes and Investment Priorities

The following table indicates incremental silviculture regimes which are suitable to attaining the above working targets and strategies.

Regime Table, Queen Charlotte TSA, July 1998

Regimes	Strategy	Opportunity Area (Ha/Yr)	Timber Supply Effects			Quality	Direct Silv. Jobs Days/ha	Direct Cost $/ha	Habi-tat	Rank
			Short	Medium	Long					
1 **Backlog Brushing**		120 (1 year only)			A+	0	5.50	1600		1
Riparian Rehabilitation 2 (includes conifer release, spacing, planting)	H1	60					7.50	1000	+++	3
Spacing 3 M sites(some P, G) to 600-1000 sph	Q1, Q2, Q3	400		A+	A++	+	4.00	1500		2
Pruning 4 M-G (best of spaced stands) to 5.5 m	Q1	150				+++	7.50	2000		2
Fertilization 5 Cedar-salal sites	MT3	200		B+	B++	0	0.01	600		1

Notes
A-type timber supply effects are incorporated in the TSR base case
B-type timber supply effects are incremental to the TSR base case

Incremental Silviculture Program

The following annualized program will achieve the above goals and strategies. It is based on the regime table and scheduling information provided by participants at the district working session.

Program Table - Hectares Treated, Queen Charlotte TSA, July 1998

Year	Surveys	Backlog Brushing	Riparian Rehab	Space	Prune	Layout	Fertilize	Total
1	2,000	90	60	400	150	550	200	3,450
2	2,000	-	60	400	150	550	200	3,360
3	2,000	-	60	400	150	550	200	3,360
4	2,000	-	-	400	150	550	200	3,300
5	2,000	-	-	400	150	550	200	3,300
Subtot Yr 1 - 5	10,000	90	180	2,000	750	2,750	1,000	16,770
6 - 10	10,000	-	-	2,000	750	2,750	1,000	16,500
Total Yr 1 - 10	20,000	90	180	4,000	1,500	5,500	2,000	33,270
Unit Cost ($/ha)	30	1,600	1,000	2,000	3,000	100	600	

Program Table - $ 000s, Queen Charlotte TSA, July 1998

Year	Surveys	Backlog Brushing	Riparian Rehab	Space	Prune	Layout	Fertilize	Total
1	60	144	60	800	450	55	120	1,689
2	60	-	60	800	450	55	120	1,545
3	60	-	60	800	450	55	120	1,545
4	60	-	-	800	450	55	120	1,485
5	60	-	-	800	450	55	120	1,485
Subtot Yr 1 - 5	300	144	180	4,000	2,250	275	600	7,749
6 - 10	300	-	-	4,000	2,250	275	600	7,425
Total Yr 1 - 10	600	144	180	8,000	4,500	550	1,200	15,174

Job Outcomes

The following are the anticipated job outcomes of the preceding program, assuming the program is maintained into the future as necessary to achieve the working targets.

Program Job Outcomes, Queen Charlotte TSA, July 1998

Short term *employment associated with undertaking the silviculture activity, in person-years*

Year	Surveys	Backlog Brushing	Riparian Rehab	Space	Prune	Fertilize	Total Silv. Jobs
PDs/ha	0.1	5.5	7.5	4	7.5	0.01	
Year							
1	1.1	3.7	2.5	8.9	6.3	0.0	22.4
2	1.1	-	2.5	8.9	6.3	0.0	18.8
3	1.1	-	2.5	8.9	6.3	0.0	18.8
4	1.1	-	-	8.9	6.3	0.0	16.3
5	1.1	-	-	8.9	6.3	0.0	16.3
Subtot Yr 1 - 5	5.6	3.7	7.5	44.4	31.3	0.1	92.5
6 - 10	5.6	-	-	44.4	31.3	0.1	81.3
Total Yr 1 - 10	11.1	3.7	7.5	88.9	62.5	0.1	173.8

Note: Assumes 180 days of silviculture work = 1 job (Source: Jobs and Timber Accord)

Long term *employment associated with improved quantity of the timber resource*[1]

Decade	Harvest Increment ('000 m3)	Incremental Jobs			
		per year by decade		Total by decade	
		TSA[2]	Prov[3]	TSA[2]	Prov[3]
1	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0
6	12.3	3.6	16.0	35.7	159.9
7	12.3	3.6	16.0	35.7	159.9
8	12.3	3.6	16.0	35.7	159.9
9	12.3	3.6	16.0	35.7	159.9
10	12.3	3.6	16.0	35.7	159.9
11	12.3	3.6	16.0	35.7	159.9
12	12.3	3.6	16.0	35.7	159.9
13	12.3	3.6	16.0	35.7	159.9
14	12.3	3.6	16.0	35.7	159.9
15	12.3	3.6	16.0	35.7	159.9
16	13.5	3.9	17.6	39.2	175.5
17	44.6	12.9	58.0	129.5	580.3
18	44.6	12.9	58.0	129.5	580.3
19	44.6	12.9	58.0	129.5	580.3
20	44.6	12.9	58.0	129.5	580.3
21	42.8	12.4	55.7	124.2	556.9
22	44.6	12.9	58.0	129.5	580.3
23	44.6	12.9	58.0	129.5	580.3
24	44.6	12.9	58.0	129.5	580.3
25	44.6	12.9	58.0	129.5	580.3
Total				1555.7	6974.0

1 - Assumes continuation of the incremental silviculture program beyond the first 10 years, in accordance with the strategy
The total harvest increment is associated with all silvicultural practices documented in the "Opportunities" section and is only partly attributable to spacing and fertilization practices. Some of the increase may be associated with pre-free growing silviculture that was not current practice at the time of TSR1.

2 - Assumes 0.29 TSA level harvesting and processing jobs (PYs) per 1000 cubic metre (Source: Queen Charlotte Islands SEA)

3 - Assumes 1.3 Provincial level harvesting and processing jobs (PYs) per 1000 cubic metre (Source: Queen Charlotte Islands SEA)

References

B.C. Ministry of Forests. 1991. *Regional Stand Tending Guidelines*. Vancouver Circular Letter VR91-558. Vancouver Forest Region, Nanaimo, British Columbia. 24p + Appendices.

________. 1994a. *Queen Charlotte TSA: Timber Supply Analysis*. Timber Supply Branch, Victoria, British Columbia. 61p.

________. 1994b. *Queen Charlotte Timber Supply Area: Timber Supply Review Discussion Paper*. Timber Supply Branch, Victoria, British Columbia. 11p.

________. 1996. *Forest Management Issues identified Through the AAC Determination Process*. Timber Supply Branch, Victoria, British Columbia. 331p.

________. 1997a. *Summary of Timber Supply Review Results 1992 to 1996*. Timber Supply Branch, Victoria, British Columbia. 20p.

________. 1997b. *Assumptions Included in Timber Supply Analyses: Timber Supply Areas & Tree Farm Licences*. Forest Practices Branch, Victoria, British Columbia. 115p.

________. 1998a. *Guidance towards Participation in the Forest Renewal BC Planning Process and the Development of Resource Management Plans*. Victoria, British Columbia. 20p.

________. 1998b. *Vancouver Region Incremental Silviculture Objectives*. Handout. Vancouver Forest Region, Nanaimo, British Columbia. 1p.

Pedersen, L. 1996. *Queen Charlotte Timber Supply Area Rationale for Allowable Annual Cut (AAC) Determination*. Victoria, British Columbia. 37p + Attachments.

Timberline Forest Inventory Consultants Ltd. 1997. *Forest Level Benefits to Commercial Thinning and Fertilization*. Prepared for the B.C. Ministry of Forests, Forest Practices Branch, Victoria, British Columbia. 64p.

September 30, 1999

INCREMENTAL SILVICULTURE STRATEGY

A COMPONENT OF THE SQUAMISH FOREST DISTRICT

2000
RESOURCE MANAGEMENT PLAN

(*for program update refer to 2000 activity templates*)

Soo
Timber Supply Area

Incremental Silviculture Strategy (Interim)

-- Version 1.0 --

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British Columbia
Ministry of Forests

Funded By

Forest Renewal BC

August 31, 1998

STRATEGY AT A GLANCE

Working Targets

The focus of the silviculture strategy in the Soo TSA is to increase the supply of sawlogs during the mid term period. This focus restricts the ability to improve timber quality.

Quantity: Manage mid-term timber supplies to yield a harvest of 440 000 m3/yr and long term supplies to yield 530 000 m3/yr.

Quality: Manage existing age class 1 & 2 and regenerated stands to yield 2% premium logs by volume, with the majority of the remainder being of sawlog quality.

Product Objectives

The following are definitions of premium logs and sawlogs in the Soo TSA.

Premium Log:	Douglas-fir:	50+ cm min dbh, pruned 5 m 1st log.
	Balsam:	40 - 45 cm min dbh, small tight knots, pruned 5m 1st log. (Balsam is only 5-10% of total timber and is not significant.)
Sawlog:	stands having 250 stems/ha 50+cm DBH and average diameter 40 cm.	

Major Silvicultural Strategies

Quantity

1. (Non-silvicultural) Complete a number of identified studies.
2. Reduce minimum harvest ages of younger existing stands and newly regenerated stands by 10 years through a number of identified practices.
3. Increase the volume of 2 000 ha Fdc, age class 3 existing stands through fertilization.
4. Design stocking levels on some existing stands to facilitate a possible commercial thinning program in the period 40 - 70 years from now.
5. Create owl habitat in 10% of spaced areas.
6. Increase regenerated stand volumes 20% (tree improvement is critical to success).
7. Expand the timber harvesting land base by 1% by restocking 250 ha of backlog NSR and rehabilitating 1 000 ha of poor-site Pl.

Quality

1. Prune 50 ha/yr to increase future timber quality.

Incremental Silviculture Program

Program Table - Ha, Soo TSA, August 1998

Year	Surveys*	Backlog Brushing	Backlog Planting	Space	Prune 1st lift	Prune 2nd lift	Fertilize	Owl
1	4,000	150	50	1,200	50	100	1,450	50
2	4,000	150	50	1,200	50	100	1,450	50
3	4,000	150	50	1,200	50	100	1,450	50
4	4,000	150	50	1,200	50	100	1,450	50
5	4,000	150	50	1,200	50	100	1,450	50
Subtot Yr 1 - 5	20,000	750	250	6,000	250	500	7,250	250
6 - 10	15,000	125	0	6,000	250	250	7,250	250
Total Yr 1 - 10	35,000	875	250	12,000	500	750	14,500	500

* Includes prescription and layout

Introduction

About the Interim Strategy

The terms of a service agreement between Forest Renewal BC (FRBC) and the BC Ministry of Forests (MoF) require the MoF to develop with funding by FRBC, among other things, what is essentially an incremental silviculture strategy. This document is in fulfillment of this contractual requirement.

Incremental silviculture is part of a suite of strategies which together may influence the future quality and quantity of habitat and timber supply. This strategy document broadly analyzes the full potential range of silviculture activities in order to create a context for an incremental silviculture strategy.

An incremental silviculture strategy should not be confused with the allowable annual cut (AAC) determination process. AAC's are based on actual practice and current information at the time of the determination. This strategy, on the other hand, is about creating a future state of our forests. The degree to which the strategy proves appropriate and is achieved may influence future, but not necessarily present, AAC determinations.

This strategy is founded on readily available information and the knowledge of forestry professionals. It is intended as an interim strategy until a more in-depth analysis-based review is completed.

Methodology

This strategy was prepared through the following process:

1. Prior to the district working session, L. P. Atherton & Associates prepared a preliminary draft of this document, summarizing all available information relevant to a strategy and identifying opportunities to improve the future quantity and quality of timber supply.
2. A district working session was held August 12 & 13, 1998 in Squamish, attended by representatives of the MoF and forest licensees of the Soo TSA. Larry Atherton of L. P. Atherton & Associates and Doug Williams of Cortex Consultants Inc. led the session. Participants reviewed the potential opportunities identified in the draft document along with others that arose. The outcome of the session was a regime table, complete with priorities.
3. The consultants incorporated the results of the working session into the draft document and added forecasts of future harvest quantity and quality and of job outcomes.
4. After ministry review, the consultants submitted a completed strategy document to the MoF in electronic format as version 1.0. (The ministry will assign higher version numbers (e.g., 1.1, 1.2, etc.) as the strategy evolves and changes are made.)

Acknowledgments

The participation of representatives of the following organizations at the district working session is gratefully acknowledged.

Ministry of Forests:

- Squamish Forest District; and
- Vancouver Forest Region.

Forest licensees of the Soo TSA:

- Interfor
- Canfor
- VCH Forestry
- Squamish Mills
- Terminal Forest Products

The project was managed by Mr. Larry Sigurdson of the Ministry of Forests, Vancouver Forest Region. Funding was provided by Forest Renewal BC.

Basic Data

* Does not include approximately 7 000 ha (6%) of low productivity forest determined by the chief forester in the AAC rationale to be part of the THLB.

Land Area

Description	Area (ha)	Area %
Total Area of TSA	719 500	100
Total Productive Crown Forest	300 700	42
Net Timber Harv. Land Base	109 800	15

Source: TS analysis report - rounded to nearest 100 ha.

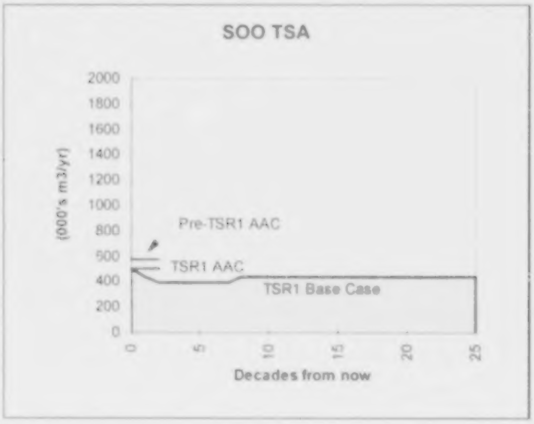
AAC

AAC Type	Pre-TSR	TSR1*	Change (%)
Conventional	575 843	503 500	-12.6
Deciduous	4 157	2 500	-39.9
Insect/Disease	-	-	-
Marginal	-	-	-
Total	580 000	506 000	-12.8

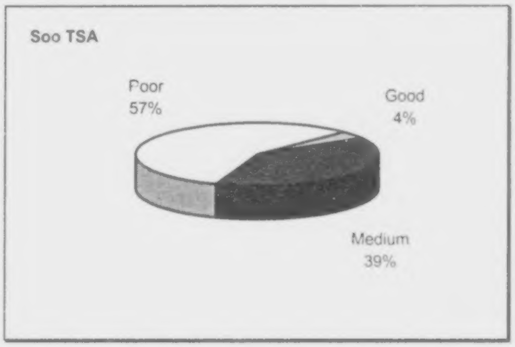
Woodlot AAC	

*effective Jan 1/96

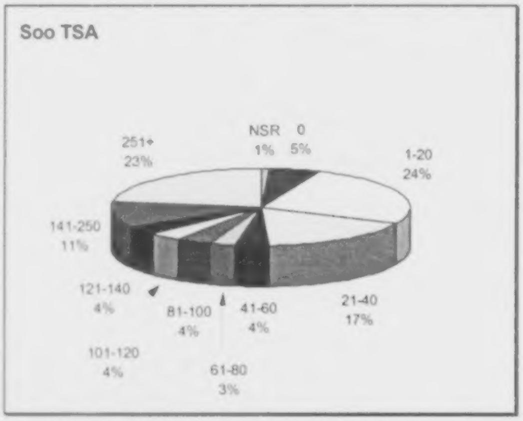
Harvest Forecast



Site Class

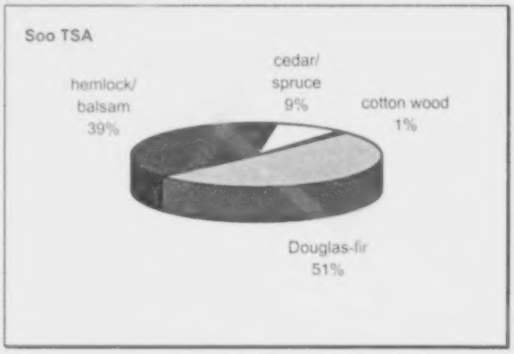


Age Class



Data scaled from chart in TS analysis report.

Tree Species



Issues

Individual Issue Analysis

The following information is primarily from documentation produced under the first timber supply review, or TSR1. Sources are noted, with full references given on page 28. Only information which is relevant to an incremental silviculture strategy is recorded. Key statements are bolded.

◆ Harvest Forecast	**Initial harvest level of 506 000 m3/yr, about 13% below pre-TSR AAC.** This is followed by declines over the next 2 decades of 13% and 11% respectively, to a mid term level of 394 000 m3 (32% below the pre-TSR AAC and **22% below the initial harvest level)** rising to a long term harvest level in decade 8 of 442 000 m3 (24% below pre-TSR AAC, **13% below initial harvest level**). (analysis, 14) Most of the mature timber upon which harvesting will depend in the short term is located on poor growing sites. This means a relatively greater area will need to be harvested in the short term than if harvest were coming from better sites (rationale, 11). All of the harvesting in the first 7 decades occurs in existing unmanaged stands. By decade 8 (starting 70 years from now), most of the stands available for harvest are managed stands, for which increased yields apply. (analysis, 29)
◆ Age Class	As a result of past harvesting, approximately 47% of THLB is in stands aged 0 - 40 years. A shortage of stands aged 41 - 140 years (approx. 19% of THLB), leaves a considerable gap before the existing immature forests are available for harvest, resulting in mid term harvest levels below LTHL for a period of 50 years. **As a result of this age class structure, short and mid term harvest levels are highly sensitive to changes in minimum harvest ages.**
◆ Forest Cover	*IRM Zone*: 77% of THLB. Base case requirement of at most 33% of THLB permitted to be < 3 m tall (3 pass system). (rationale, 20) Sensitivity test of + 1,2 passes. (analysis, 26) Relaxation: Not illustrated in TS report. However, report indicates not sensitive. Increase: (4, 5 pass) Insensitive to 4 pass requirement (25%). Very slight sensitivity to 5 pass requirement (20%) with a decline of only 1% during decades 3 - 7. This occurs because the harvest target of 12% from the Pemberton Supply Block high decay stands cannot be met at this level of constraint and other areas do not have enough timber to make up the shortfall. *Visual Quality Zones*: 11% of THLB (rationale, 21). Base case requirement of at most 11% (retention), and 21% (partial retention) to be < 5 m tall. No separate sensitivity test in analysis report. Recent classification work indicates the amount of visually sensitive area will at least double. However, a doubling of the visually sensitive area showed no significant impact on the short term timber supply. (rationale, 21-22) *Green-up*: Sensitivity test of ± 5 years. (analysis, 25) Relaxation: (- 5 yrs) Insensitive over all terms. Forest cover requirements are not a limiting factor in the base case. Increase: (+ 5 yrs) Insensitive over short and long term. Very slight sensitivity (2% reduction) in decades 3 to 7.
◆ Backlog NSR	1 051 ha of backlog NSR to be restocked within 5 years (rationale, 18). By 1997 this has been reduced to approx. 600 ha (1997 data package).
◆ Quality	• Of the 3 443 ha of deciduous stands removed from the THLB, 1 000 ha are projected to

	be converted to softwood stands over 50 years through a combination of natural stand succession and manual stand replacement projects. This has been included in the timber supply analysis. (rationale, 19) This does not include cottonwood, of which there are approx. 1 450 operable ha. (rationale, 26) Although analysis indicates a potential sustainable cottonwood harvest of 3 500 m3/yr, chief forester (CF) sets a partition of 2 500 m3 to allow for other constraints (rationale, 34). • 711 ha of non-commercial cover deducted from THLB. (analysis, 6) • 20 970 ha of low productivity sites deducted from THLB (all mature stands < 23 m ht. and all regenerated stands having an SI age 100 of 20 m or less). CF subsequently concludes this area overestimated by 7 000 ha (6% of THLB). (rationale, 16) • The 1994 Soo TSA management plan specifies 25% of the harvest must come from difficult or decadent stands. This has been implemented to the extent that special harvesting priorities are no longer needed. (data package, 15)
♦ Older Forests	Base case does not include a requirement for old growth or biodiversity as there are no specific provisions applied operationally in the TSA. The deer winter range zone (approx 7% of THLB) has a requirement for at least 65%, and the mushroom zone (<1%) a requirement of at least 50%, to be age 80 or older. No independent sensitivity test shown, however analysis report states that the harvest forecast is minimally sensitive. (analysis, 27)
♦ Min. Harvest Ages	Ages based on product objectives of 1993 Soo Forest Management Plan. Objective to grow the most valuable log grades possible, without reducing total volume by more than 5% from the maximum. Ages range from 95 - 105 years for existing stands and 70 - 130 for regenerated stands. (rationale, 13-14) Minimum ages in TSR2 analysis will be 90% of culmination age, which are the ages at which stands are marketable (data package, 15). Sensitivity analyses of ± 10 and ± 20 yrs. Short and mid terms highly sensitive. Long term insensitive (± 1%). (analysis, 23-25) Decrease: (- 10, 20 yrs) **Short and mid term highly sensitive**, increasing harvest in 1st decade by 7 & 13% respectively. **Mid term trough below LTHL eliminated**, as lower ages allow the large area of existing immature stands to reach harvestable age sooner. However, total growing stock is reduced 23% from base case if min ages are 20 years less. Increase: (+10, 20 yrs) **Short and mid term highly sensitive**, decreasing harvest in 1st decade by 35 & 43% respectively. Harvest levels rise to LTHL at decades 9 and 10 respectively, when large areas reach minimum harvest age and this factor is no longer limiting.
♦ Silvicultural Systems	Most of the THLB is currently managed under a clearcut harvesting system. Soo Forest Management Strategy requires licensees and SBFEP to use 10% alternate systems but largely not yet implemented. As of 1997, there is still little use of partial or selection harvest systems, although increased usage is anticipated, especially in the spotted owl management zone (data package, 15).
♦ Regeneration Delay	Majority of sites are regenerated within 2-3 yrs of harvest with 15% taking longer. This equates to an avg 3 yr regeneration delay. (rationale, 18) A 3 year regeneration delay will be used in TSR 2 (data package, 17).
♦ Site Productivity	Licensee commissioned analysis suggests that site indexes attributed to existing overmature forests underestimate the productivity of those sites that are regenerating. Forest Service staff agree that site indexes may be underestimated. BCFS analysis shows this could mean a potential increase in the mid and long term harvest levels. (rationale, 12) CF concludes it is likely that site indexes may be underestimated, which may increase the land base further (rationale, 16).

District estimates a 3 m productivity gain overall which will likely move a significant amount of poor site forest land to medium site, and all higher medium-site to good site.[1]

- Estimates of Timber Volumes

VDYP used for existing stands >20yrs. TIPSY used for regenerated stands and existing stands 20 years and under, with OAF1 of 15% and OAF 2 of 5%. (rationale, 13) A 2% volume increase resulting from tree improvement is recognized in some regeneration assumptions, as well as increases from fertilization of some timber types (analysis, 47). TSR2 will apply TIPSY to all Douglas-fir stands 30 yrs old or less, all hemlock/balsam stands 20 yrs old or less and all other existing stands 10 yrs old or less, with standard OAF 1 of 15% and OAF2 of 5%. In addition TSR2 TIPSY yields will recognize effects of tree improvement (at least a 3% volume increase) and repeat fertilization of some stands (data package, 17-18).

Existing stand volumes: The Soo TSA was re-inventoried in 1992, but there are some allegations that the inventory has underestimated volumes. CF accepts the existing inventory as suitable. (rationale, 11)

Sensitivity test for ± 10% in volume. Moderately sensitive to an increase and highly sensitive to a decrease in short and mid terms. Long term insensitive. (analysis, 28)

> Increase: (+10%) Moderately sensitive. Increases volumes in 1st several decades by 5 - 8% (visual estimate from charts). **Mid term shortfall eliminated.**
>
> Decrease: (-10%) **Highly sensitive**. Initial volumes reduced 26% below base case in 1st decade, remaining more or less at this level until rising to LTHL beginning in 8th decade.

Regenerated stand volumes: Sensitivity tests for ±20% in volume. Short and mid term insensitive to either. **Highly sensitive to both in long term.** (analysis, 29)

> Increase: (+20%) LTHL 21% higher than base case, starting to rise from mid term shortfall 80 years from now which is when most of the stands available for harvest are managed stands. [This effectively increases the magnitude of the mid-term dip below LTHL, creating a potential for commercial thinning or spacing to bring forward harvests?]
>
> Decrease: (-20%) LTHL 22% lower than base case.

- Land Use Planning

Areas affected by spotted owl habitat and the PAS occupy approx. 30% of the THLB. Logging around these areas is presenting serious problems. (rationale, 25) CF recommends early consideration be given to the identification of appropriate parts of the Soo TSA as designated areas under Part 15 of the *Forest Act*, in order that a temporary AAC reduction may be effected (rationale, 34).

Approximately 10 000 ha of THLB age class 9 forest land has gone into protected areas (subsequent to TSR1). Offsetting this is the increase in THLB operable area associated with helicopter logging. There is approximately 26 000 ha of heli-logging opportunity, however only 13 000 ha are considered operable in the near future and will be recognized in TSR2 (at a rate of 130 ha/yr). The remainder will be the subject of a sensitivity analysis. (SFD)

Summary of Issues by Period

1. Future harvest levels are very much controlled by fact that almost one-half of area is 40 years old or less.

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[1] Source: MoF Squamish Forest District. Hereafter noted in the text as (SFD).

2. District desire to manage for higher value products overriden in the AAC rationale by the need to keep higher timber supply levels by reducing minimum harvest ages.
3. The TSA is virtually insensitive over all periods to all forest cover constraints.

Short Term (1 - 20 years)

The short term is highly sensitive to decreases in minimum harvest ages and is moderately sensitive to increases in existing stand volumes. (It is also highly sensitive to the opposite; strengthening the value of incremental silviculture in a preventative sense.) Thus the short term could respond to an intensive fertilization program to boost volumes in suitable stands planned for harvest in the period 10 - 20 years from now and to a program of treatments oriented to reducing harvest ages over the next 70 - 80 years.

Mid Term (21 - 70 years)

A 10% reduction in minimum harvest ages eliminates the mid term shortfall of the base case forecast. Raising the volume of existing stands by 10% will also accomplish this. Presumably, the two actions, combined with other appropriate efforts, can eliminate the shortfall as shown by the base case. However, were regenerated stand volumes to be increased 20% the mid term would still have a shortfall below a now-higher LTHL.

Long Term (71+ years)

The long term only exhibits sensitivity to changes in regenerated stand volumes. For every 1% increase or decrease in volume there is a corresponding approximate 1% increase or decrease in the LTHL.

Future

The timber supply review could not take into account the following:

- Changes under the Forest Practices Code had yet to be seen in practice. Implementation of the code is likely to have a downward effect on timber supplies.
- Decisions with respect to spotted owl management and protected areas were still pending at the time of the analysis and AAC determination. These may result in reductions to the timber harvesting land base or place additional constraints on timber supply.

Incremental Silviculture History

Approximately 1 100 ha are harvested annually. This amount is increasing due to logging in poorer sites. (SFD)

Treatment	Incorporated in Timber Supply Analysis	Not Incorporated in Timber Supply Analysis
◆Backlog	Restock 1 051 ha in 5 years (rationale, 18). (By 1997 this had been reduced to approx. 600 ha (1997 data package)).	
◆Conversion	1 000 ha of decid to conifers over 50 yrs through a combination of natural stand succession and manual stand replacement projects (rationale, 19). (No	

Treatment	Incorporated in Timber Supply Analysis	Not Incorporated in Timber Supply Analysis
	projects as of 1988 - best stands are in the riparian zone (SFD).)	
♦ Commercial Thin		Little performance to date. One small business block of 30 ha to be sold in 1998 (SFD).
♦ Space	TIPSY used on stands regenerated over the past 20 years. Assumes incremental spacing for stocking control on stands harvested prior to 1987. 600-900 ha/yr in district program. (rationale, 18) Average of 1 000 ha/yr from 1988 to 1997 (SFD).	
♦ Prune	200 ha/yr planned program. (rationale, 18) Recent level approx. 60 ha/yr (SFD).	
♦ Fertilize	1 100 ha/yr planned program. (rationale, 18) Approx. 1 200 ha/yr from 1990 to 1997.	
♦ Space/ Prune		Combinations not indicated.
♦ Space /Fertilize		"
♦ Space/ Prune/Fert		"
♦ Other		None indicated.

Higher Level Goals and Objectives

This section documents higher level goals and objectives relevant to an incremental silviculture strategy for the TSA.

Provincial Goals

Fundamentally, government's goals can be characterized as:

- sustainable use;
- community stability; and
- a strong forest sector. (MoF, 1998a)

Provincial Objectives

Until provincial targets for timber quantity and quality are established, management unit strategies are to consider the following interim provincial strategic objectives (MoF, 1998a). Incremental silviculture strategies must also be in keeping with higher level plans under the Forest Practices Code.

Objective 1: Maintain current harvest levels as long as possible without creating disruptive shortfalls in future timber supply.

Objective 2: Create a long term timber supply capable of supporting a steady long term provincial harvest level similar to current levels.

Objective 3: Minimize the interim shortfall in provincial harvest anticipated before a steady long term timber supply is achieved.

Objective 4: Create a long term timber supply which will enable the timber quality profile of future harvests to be the same or better than the current profile.

It is recognized that not every management unit has the same capability to contribute to these interim objectives. Further, it is recognized that these objectives may not be attainable at current funding levels. Their purpose is to provide general guidance to the application of available funds.

Regional Objectives

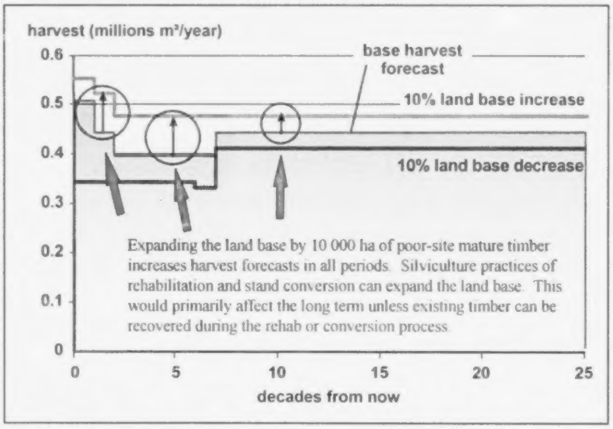
The objectives of the regional incremental silviculture strategy are to:

- Ensure a long term sustainable harvest which approximates the current harvest value and volume levels and that produces a diversified mix of products necessary to create and maintain sustainable forest employment.
- Balance treatments that enhance growth and yield such as fertilizing, spacing and forest health activities with those that increase the value of the wood such as pruning.
- Utilize incremental silviculture treatments to contribute to sustainable management of non-timber values at the landscape level. (MoF, 1998b)

Opportunities to Increase Timber Supply

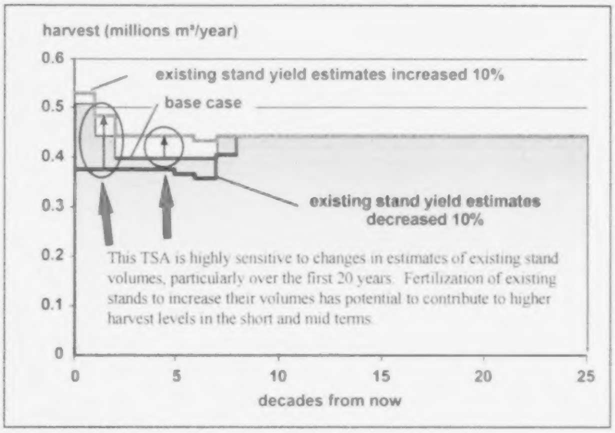
Opportunities Indicated Through TSR Sensitivity Analyses

TSA modelling in support of planning incremental silviculture has not yet been undertaken. In its absence, sensitivity analyses from the TSR1 analysis report are the best source of information as to the opportunities for incremental silviculture to increase future timber supply. The following are selected sensitivity analsysis charts from the TSR1 analysis report, to which opportunity information is added. Detailed analyses are required to confirm the indicated effects.



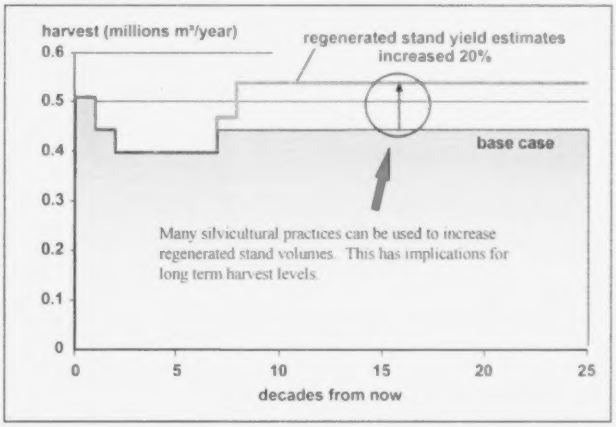
Expanding the land base by 10 000 ha of poor-site mature timber increases harvest forecasts in all periods. Silviculture practices of rehabilitation and stand conversion can expand the land base. This would primarily affect the long term unless existing timber can be recovered during the rehab or conversion process.

Figure 1. Changes in land base, Soo TSA



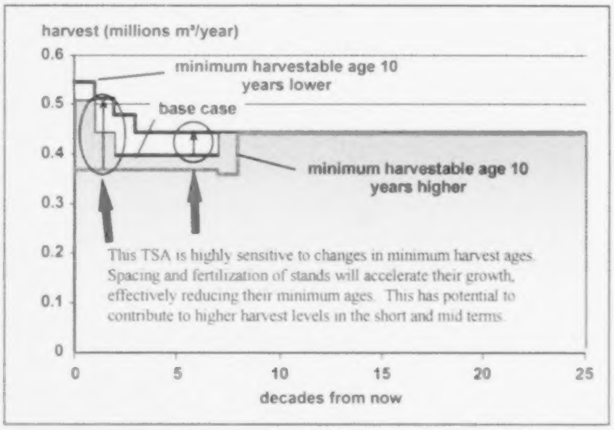
This TSA is highly sensitive to changes in estimates of existing stand volumes, particularly over the first 20 years. Fertilization of existing stands to increase their volumes has potential to contribute to higher harvest levels in the short and mid terms.

Figure 2. Changes in existing stand volumes, Soo TSA



Many silvicultural practices can be used to increase regenerated stand volumes. This has implications for long term harvest levels.

Figure 3. Changes in regenerated stand volumes, Soo TSA



This TSA is highly sensitive to changes in minimum harvest ages. Spacing and fertilization of stands will accelerate their growth, effectively reducing their minimum ages. This has potential to contribute to higher harvest levels in the short and mid terms.

Figure 4. Changes in minimum harvest ages, Soo TSA

Preliminary Identification of Silviculture Opportunities

Information in the previous sections indicates the following silvicultural strategies may have potential to increase future timber supply. Each of these was discussed in detail in the district working session, the results of which are recorded in "Potential Strategies by Response Time Frame," page 11, along with additional strategies that arose during the meeting. Strategies that are ultimately adopted are noted in "Silviculture Strategies," page 23.

Short Term (1 - 20 yrs)

ST 1: reduce minimum harvest ages; and

ST 2: expand the timber harvesting land base.

Mid Term (21 - 70 yrs)

MT 1: reduce minimum harvest ages;

MT 2: increase the volume of some existing stands;

MT 3: space post FG stands to set up for CT to bring forward harvest from long term into mid term (increasing regenerated stand volumes creates a mid term shortfall);

MT 4: expand the timber harvesting land base; and

MT 5: address older forest/habitat/biodiversity constraints.

Long Term (71+ yrs)

LT 1: increase regenerated stand volumes 20%;

LT 2: expand the timber harvesting land base; and

LT 3: address older forest/habitat/biodiversity constraints.

Available Information Regarding Potential Treatments and Treatable Area

This section summarizes available information directly relevant to the potential treatments for the TSA.

Treatment	Comment	Treatable Area/
♦ General	Soo TSA has an aggressive intensive silviculture program with the objectives of providing 47 000 m3/yr above that from basic silviculture, improving stand value, meeting product objectives and lowering the harvestable age where investment provides an annual return > 4%. (rationale, 18)	
♦ Spacing	Soo TSA plan specifies spacing 600 -900 ha/yr.	
♦ Fertilization	Soo TSA plan specifies fertilizing 1 100 ha/yr. A more intensive fertilization program, combined with spacing and commercial thinning programs on suitable stands may: • increase short and mid term harvests by effectively lowering minimum harvest ages; • increase long term harvests by increasing total volumes.	Large area in Douglas-fir which responds to fertilization.
♦ Commercial Thinning	No CT to date. Some areas are planned in licensee 5 year development plans. (rationale, 19, 30) A very realistic option for increasing mid term harvest levels when combined with other intensive forestry practices. As second growth or managed stands start to mature, it is expected that 10% of the annual harvest will come from commercial thinnings. (data package, 15)	Large candidate areas becoming available several decades from now.

Treatment	Comment	Treatable Area/
◆ Backlog NSR	1 051 ha of backlog NSR to be restocked within 5 years (Approx. 600 ha in 1997). No additional opportunity.	

Potential Strategies by Response Time Frame

This section documents the discussions and outcomes of the district working session.

In the AAC rationale, the chief forester identified a number of potential downward influences on timber supply. For the purposes of this strategy, however, a status quo is assumed with respect to these. Should any arise, the indicated strategies would serve to mitigate their effects rather than increase timber supply.

The TSR2 analysis report is due out by the end of 1998. However, the requirement for development of an interim strategy by the end of September, 1998 precludes waiting for the newer information. In the district working session, the potential differences between TSR1 and TSR2 were explored as best as possible given the limited knowledge of anticipated TSR2 results. The following assumptions were made:

1. The land area reductions due to protected areas will be largely offset by increases due to helicopter logging; therefore, the TSR1 base case shape should remain essentially the same in TSR2.
2. Increased productivity estimates will increase the upward response in harvest levels beyond that indicated in the sensitivity test where regenerated stand volumes are increased 20% (see Figure 3, page 9). This presents an opportunity to bring forward harvest volumes into the mid term.
3. The TSR2 base case will still show sensitivity to minimum harvest ages. This conclusion is based on (a) assuming that TSR2 min ages in the base case will be reduced approximately 10 years, but because TSR1 demonstrated sensitivity to a 20 year reduction in ages there will still be a residual minimum age sensitivity in TSR2; and (b) assuming the decreases and increases in the land base will largely offset each other, resulting in a TSR2 age class profile similar to the TSR1 profile.

Explanatory notes with respect to the following tables:

Column Number	Note
1	The response time frame is the period in which the anticipated result is expected, not the period in which actions must necessarily commence.
2	Strategy numbers correspond with the numbers recorded earlier in "Preliminary Identification of Silviculture Opportunities," page 9. Items followed by an * were added during the district working session.

Column Number	Note
3	Information in this column is largely from the district working session, combined with information presented earlier in this document. Potential treatment regimes are highlighted in bold print.
4	Anticipated results are calculated using the timber supply response indicated by TSR1 sensitivity analyses.
5	The harvest forecast for the short term uses the TSR1 AAC as the starting level in the first decade. Mid and long term harvest forecasts take the base case levels from TSR1 as the starting levels. The harvest forecast column was not thoroughly reviewed during the district meeting. *Results are largely conjecture and are meant to illustrate the potential of the strategies.*

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	Potential Harvest Forecast (000 000s m3/yr)
• Short Term (1 - 20 yrs)	1. Reduce minimum harvest ages.	1. Determined in the district working session that activities to reduce minimum harvest ages would mostly have a mid term impact. See MT 1.	1. Assume benefits of reductions in min ages would accrue to the mid term, ∴ short term harvest forecast unchanged from TSR1 base case.	0.51 1st dec. 0.46 2nd dec.
	2. Expand the timber harvesting land base.	2. Determined in the district working session that expanding the land base through incremental silviculture projects would mostly have a long term impact. See LT 2.	2. See LT 2.	
	3. Increase stocking of existing low density stands.*	3. Some areas have been declared satisfactorily restocked but have low average stocking levels. Within these stands there may be some large voids which are masked by the use of averages. Determined in the district working session that **more information about these stands is required**. This is noted under "Summary of Information and Research Needs," page 18. Would likely have a mid to long term impact, rather than short term.	3. None. More info required.	
	4. Conversion of the following off-site or lower productivity stands to Douglas-fir:*	4. The early harvest of stands that are not best suited to the site would increase timber supply in the short term, potentially at the expense of the mid term when they would otherwise be planned for harvest. The main benefit would be over the long term.	4. None. Modelling required.	
	(a) alder (1 000 ha);	(a) Approx. 1 000 ha of alder was included in the TSR1 land base (see Issues - Quality). This area was expected to convert to Fdc through natural succession and stand replacement projects. The district working session determined these stands are best left alone in the hopes a future market for alder will exist. Also, many of these stands are likely to be in the riparian zone. The potential benefits could be **explored through modelling**.		
	(b) hemlock (1 000 ha);	(b) About 1 000 ha of sub-optimal Hw could be converted to good-site Fdc [illegible]pacts of conversion **need modelling**. Has potential to extend the length of the mid term shortfall.		
	(c) balsam (1 000 ha)	(c) About 1 000 ha of balsam pulp logs, age class 4, are on too dry a site for the species and could be converted to Fdc. Impacts **need modelling**.		

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	Potential Harvest Forecast (000 000s m3/yr)
• Mid Term (21 - 70 yrs)	1. Reduce minimum harvest ages of:	1. Objective is to reduce min ages by another 10 years below TSR 2 ages, which are estimated to be 10 yrs below TSR1 ages (a) The following treatments will move forward the technical rotation ages of existing stands aged 1 - 40 yrs forward.	1. Sensitivity analysis indicates a 10 yr reduction in min ages will raise mid term harvests 11% to a level equal to the base case LTHL. Because this exercise does not attribute any benefit to the short term (see above) effect in mid term could be greater than this (assume by ½, or 16%).	0.39 base. 0.03 min ages 0.01 exist stnd 0.01 bring fwd THLB biodiv 0.44 total
	(a) younger existing stands (aged 1 - 40 yrs) 10 years by: (i) spacing remaining suitable stands;	(i) Recent spacing program of 1 000 ha/yr which includes catch-up, and all of which is post free-growing. Of the 10 000 ha of Fdc under a fertilization regime (see below), 3 000 will require spacing. Over a 10 yr period this is a **program of 300 ha/yr**. Once caught up, program will drop to a **steady state level of approx. 6-700 ha/yr**. Spacing will bring stands to technical rotation (i.e., min harvest age) earlier, as demonstrated by Carter report. Currently, spaced Fdc stands are fertilized (see next section for effect on min harvest ages). An additional **500 ha/yr of HB stands could be treated over the next 10 year period** (total treatable area = 5 000 ha or 5% of THLB). There is another **250 + 150 ha/yr of potential spacing** of low density Fdc and HB stands. 1994 Soo TSA strategy indicates spacing reduces rotation of Hw, SI 25, by 15 yrs (from 105 to 90 yrs) and Ba, SI 20, by 35 yrs (from 140 to 105 yrs).	(a) The indicated programs of combined spacing and fertilization of Fdc (10 000 ha) and spacing of Hw (5 000 ha) will reduce min harvest ages on approx. 15% of the THLB. If this results in an avg 15 yr reduction in ages, may equate to filling the gap by 20%. Expanding the program to fertilization of H/B has the potential to significantly increase the benefits but cannot be quantified at this time.	Effects may be additive, duplicative or compounding. Assume additive. Increased site productivity may further compound these effects.
	(ii) fertilizing suitable stands; and	(ii) Recent fert prog of 1 200 ha/yr. Target ½ of age class 1 and all age class 2 Fdc on site index 25 - 35, which is about 10 000 ha. An 8 yr repeat fertilization cycle equates to **an annual program of 1 250 ha/yr**. A study done by Reid Carter as background to the 1994 Soo TSA Management Plan indicates repeat fertilization of Fdc SI 30 reduces rotation age from 82 to 75 years, a 7 yr reduction. Some, if not all of this effect may be captured in the TSR2 base case. The TSR2 data package includes the above fert regimes. 43% of THLB is age class 1 & 2. Above-noted program could possibly be doubled if expanded to include H & B stands. Hw response to fert is variable. Studies are required to confirm fertilization potential (noted under "Summary of Information and Research Needs," page 18).		
	(iii) commercial thinning stands to obtain volume otherwise not available.	(iii) See MT 3 below.	(b) Assume that by continuing above spacing & fertilization programs, in conjunction with management of regenerated stands as discussed under the LT, min ages of regenerated stands can also be reduced 10 to 35 yrs. This could equate to reduced ages for another 30% of the THLB for a total of 50% when combined with the above. ∴ .5 X 16% ⇒ 8%	
	(b) newly regenerated stands by 10 years by undertaking the actions to increase regenerated stand volumes 20% (see LT 1) + spacing to bring harvest ages forward.	(b) Increasing regenerated stand volumes will move technical rotation ages forward. Focus is on those to be regenerated over the next 40 to 60 years for this objective. Enables the option of harvesting earlier at a smaller size or retaining longer for higher volume.		

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	Potential Harvest Forecast (000 000s m3/yr)
◆ Mid Term (cont'd)	2. Increase the volume of some existing stands through fertilization.	2. Younger existing stands aged 1 - 40 years are targeted for reduced min. harvest ages. See MT1 above. Only about 15% of THLB is aged 41 - 120. Hw response to fert is variable. **Studies are required to confirm fertilization potential** (noted under "Summary of Information and Research Needs," page 18). Currently no areas in this age range are being fertilized. Area of Fdc, age class 3, P-M site, is about 2 000 ha. A 10 yr repeat fertilization cycle equates to **an annual program of 200 ha/yr**. Two applications are likely necessary. While the objective is to increase the volume of these stands, a fertilization program creates options. Fertilized stands could be either harvested earlier (i.e., at reduced min. ages, but with smaller stand volumes) or at culmination (at later ages but higher volumes) as needed.	2. TSR1 indicates a 10% increase in all existing stand volumes would eliminate the mid term shortfall. Assume benefit of any additional volume incurred in short term is realized in the mid term. Assume a 30m3 volume increase/ha X 2000 ha = 60 000 m3 over mid term period (50 yrs) or ⇒ 1 200 m3/yr.	See above.
	3. Space some post FG stands to set up for CT to bring forward harvest from long term into mid term.	3. Few ha currently available for CT. **CT in the short term is not recommended.** This would bring forward volumes from the mid term, thereby worsening the mid term shortfall (unless this in turn is replaced by bringing forward volumes from the long term). In the early mid-term period (21-40 yrs from now), CT is less effective at producing the volumes needed and more costly than the alternative of lowering minimum harvest ages and clearcutting. Therefore CT is not the preferred option in this time period. **An extensive CT program may be appropriate in the later mid term period** (41 - 70 yrs from now) to bring forward volumes from the long term. (Dependent upon achieving LT1 below.) CT in this time period would capture some losses to mortality as well as overcome potential future green-up/adjacency limitations. Spacing regimes should allow for a proportion of stands to have higher stocking levels to facilitate CT in this period. This need may be satisfied if lower density stands do not get spaced (i.e., Fdc and H/B stands < 2 000 and < 3 000stems/ha respectively).	3. Planning to allow for CT maintains options. Difficult to quantify direct volume benefits w/o analysis. Assume enables the equivalent of 1 000 m3/yr higher harvest level through out entire mid term period by bringing forward approx 2 000 m3/yr during the last 3 decades of the mid term from the long term.	
	4. Expand the timber harvesting land base.	4. Determined in the district working session that expanding the land base through incremental silviculture projects would mostly have a long term impact. See LT 2.	4. Impact of increasing THLB on the mid term difficult to quantify. Sensitivity analysis indicates a 10% increase results in a 21% increase in MT harvest levels. Because impact is considered mostly long term and because opportunities need further definition, assume no MT impact.	
	5. Address older forest / habitat / biodiversity constraints?	5. Creating spotted owl habitat increases future flexibility. Owls prefer 2-layered stands of Douglas-fir. Top layer consists of 40-60 large trees/ha; lower layer of smaller trees, fully stocked. Historically, this habitat developed through fire history. About 25% of the TSA is 50% owl habitat, mostly in the transition zone. This is basically an ecosystem management problem, requiring habitat supply modelling. Published estimates state owl strategy will result in only a 10% loss of harvest, but on the ground estimates indicate more like a 30% loss. A strategy would be to manage some spacing regimes to allow the creation of owl habitat. If 10% of annual area spaced were managed this way would equate to about **100 ha/yr**. Future management would consist of partial harvest or CT to create two-layered stand condition. At this point is a matter for consideration in SMP's.	5. Requires habitat supply modelling.	

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	Potential Harvest Forecast (000 000s m3/yr)
• Long Term (71 + yrs)	1. Increase regenerated stand volumes 20% by: (a) reducing time to regeneration;	Approx. 85% + of harvested areas are currently planted. Natural regeneration is practiced only on some H sites. 1.(a) Reducing regen delay is a basic silv matter. TSR 1 & 2 regen delays are 3 yrs. Current practice is to plant soon after harvest. Very high plantation success rate. Discussion in the district working session indicates 3 yr delay is appropriate given that the delay is measured from the time harvesting is commenced.	1.(a) None. Current delays are shortest possible.	0.44 base 0.08 rgn vol 0.01 land base old grwth 0.53 total
	(b) using 2nd gen A class or elite seed;	1.(b) All Fdc seed is 1st generation "A" class. About 1/6th of TSA is coastal maritime (the remainder being coastal submaritime, or transition zone), which is where Hw would be planted (everywhere else Hw is managed for natural). **No genetically improved 2nd generation Fdc stock is available for the submaritime zone** (noted under "Summary of Information and Research Needs," page 18). Latest estimates of yield gains are (%):[2] Species — 1st gen — 2nd gen Doug-fir — 3-5 — 15 Hemlock — 3 — 20 Cedar — 3 — 10 Spruce — 3 — N/A TSR1 applied a 2% increase to 100% of Fdc, good site, 75% Fdc, med site, and 25% of C/S, good site (analysis, 47). TSR2 plans are to apply at least a 3% increase to essentially the same Fdc, but nothing to C/S.	1.(b) Moving to 2nd generation seed would increas. Fdc production by 10%. Potential gain is 10% improvement X 50% of THLB (see below) ⇒ 5% overall.	0.02 transfer to mid term over first 3 decades. decade — vol 8 — .51 9 — .51 10 — .51 11 — .53 12 — .53 etc.
	(c) planting 2nd gen. improved hemlock on areas currently managed for natural regeneration;	1.(c) If areas now managed for natural regen Hw (40% of total area) were planted w genetically improved stock (20% gain), gain could be 40% X 20% ⇒ 8% overall. However, much of the current HB is Dfc site which was naturally regenerated to HB. After harvesting, the % area is expected to change as follows: Species — current profile — future profile Doug-fir — 51 — 65 Hemlock/B — 39 — 20 Cedar/S — 9 — 15 On the one hand, this reduces the opportunity to plant with genetically improved H, on the other, conversion is to genetically improved Fdc or S on sites that are more productive for these species.	1.(c) Estimate a 15% increase in Fdc area X (15% 2nd gen gain + 5% more productive site use) ⇒ 3%	

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[2] Source: participants at Chilliwack district meeting.

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	Potential Harvest Forecast (000 000s m3/yr)
• Long Term (cont'd)	(d) using large planting stock;	1.(d) Planting larger stock is a basic silv matter - not likely to change w/o funding assistance. District working session concluded this is not a good option.	1.(d) None.	See above.
	(e) brushing for growth enhancement;	1.(e) 70-80% of regenerated areas are brushed to ensure free growing. May be some benefit to brushing earlier - unlikely to change w/in current funding structure. Opportunities and potential gains are unquantified. In the district discussion of this topic, it was brought up that the amount of site prep has dropped dramatically due to reductions in broadcast burning. Because TIPSY plots are based on prepared sites, they may now over-estimate yields. Somewhat offsetting this is the shorter regen delay w/o site prep. This concern is noted under "Summary of Information and Research Needs," page 18.	1.(e) Unquantified.	
	(f) managing stocking to reduce voids 5%;	1.(f) Voids can be desirable for wildlife habitat. Current free growing requirements will result in < 15% in voids, however amount is unknown as must also account for area not in the net area to be reforested (other than allowable roads & landings) and for voids that open up later on. Given the difficult operating terrain of this area, 15% voids may be reasonable. Actual voids could be surveyed (noted under "Summary of Information and Research Needs," page 18).	1.(f) None.	
	(g) fertilizing suitable regenerated stands.	1.(g) Currently only seedlings on rehab plantations are "tea bagged". See MT1 re fertilizing regenerated stands to reduce min ages. Licensees not likely to fertilize prior to FG unless necessary to achieve FG. Post FG could be done with FRBC funding. Ultimately, about 75% of the THLB could prove to respond to fertilization	1.(g) Assume a THLB of 100 000 ha, a 30 m3/ha avg response to fert., and a 90 yr avg rotation, (.75 X 100 000 X30 / 90) => 25 000 m3/yr or 6%. **Total: 14%** from increasing regen stand volumes. When this is combined with a potential site productivity increase of approx. 10%, an objective of achieving a 20% increase in regenerated stand volumes appears achievable.	
	2. Expand the timber harvesting land base through: (a) rehabilitating backlog NSR; (b) NP Brush Area;* and (c) rehab of Pl stands.*	2. The district working session determined that site rehabilitation would mostly have a long term impact. (a) 600 ha of backlog NSR remaining, about **250 ha of which is accessible and treatable**. **Approx 900 ha of backlog brushing required** to maintain earlier plantations. (b) **More information on NPBr rehab opportunities is required**. For now, best strategy would be to revisit NP sites and assess opportunities for treatment (noted under "Summary of Information and Research Needs," page 18). (c) All Pl stands were excluded from the THLB in TSR1 (analysis, 40). TSR2 will include pine stands of better site productivity (data package, 5). Opportunity exists to rehab poor-site Pl stands that are not expected to become merchantable and reforest to Fdc, SI 25. These stands exist in the Squamish-Whistler corridor, Lillooet River valley and Birkenhead areas. **Potential program of 100 ha/yr.** Total treatable area unknown - estimate 1 000 +ha.	2. (a) Already in base case forecast. (b) More information required. (c) Sensitivity analysis indicates a 7% increase in LTHL with a 10% increase in land base. Assume 1% increase in THLB = .01 X .07 => 1%.	
	3. Address older forest / habitat / biodiversity constraints?	3. See discussion under MT 5 above.	3. See MT 5.	

Potential Harvest Forecast

Figure 5 graphs the potential harvest level that may be attained through implementation of the silvicultural strategies in the preceding tables. This forecast is highly speculative and requires confirmation through computer-based modeling and analysis. Modeling may also indicate more precise timing, targeting and program levels associated with incremental silviculture activities than could be developed in this interim strategy.

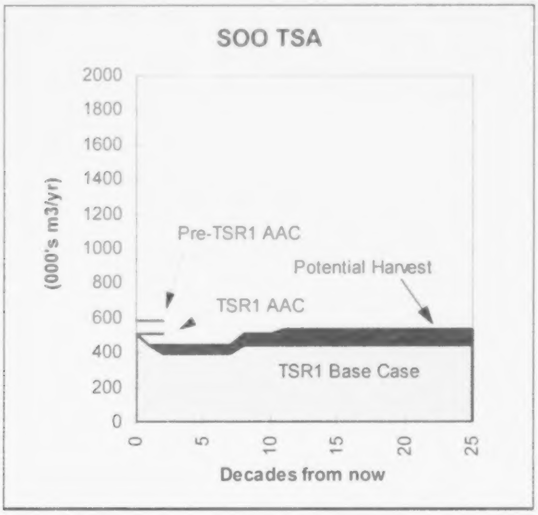

Figure 5. Potential Harvest Forecast, Soo TSA

Summary of Information and Research Needs

During the assessment process, the following needs for further information and research became apparent. The outcome of these have implications for an incremental silviculture strategy.

1. OAF 1 factor of 15% requires confirmation. Survey techniques are available. Requires statistical validity at the management unit level if to be used for AAC determination.
2. The amount of site prep has dropped dramatically due to reductions in broadcast burning. Because TIPSY plots are based on prepared sites, they may now over-estimate yields. Somewhat offsetting this is the shorter regen delay w/o site prep. An assessment of these effects is required to confirm TIPSY yields reflect current practice.
3. Old growth site index and existing stand volume estimation studies require completion. It is anticipated that site indexes are underestimated and existing stand volumes are accurate.

4. Hemlock response to fertilization is variable. Were the causes for this determined there may be considerable potential for hemlock fertilization to improve the harvest forecast. A program of screening trials to determine the extent of treatment opportunities is required.
5. A tree-breeding program is needed to create 2nd generation improved seed for engelmann spruce and Douglas-fir for the submaritime zone.
6. More information is required regarding the treatability of sites classified as non-productive (NP). Funding is needed to revisit NP sites and assess opportunities for treatment. A first step would be to determine available information within ministry information systems.
7. More information is required regarding the treatability of voids within sites having low average stocking levels but which are classified as satisfactorily restocked. Funding is needed to conduct a "level one" assessment to determine opportunities for treatment. A first step would be to determine available information within ministry information systems.
8. Modelling is needed regarding the opportunities for and benefits of conversion of approximately 3 000 ha of off-site alder, hemlock and balsam stands

Opportunities to Improve Timber Quality

The effects of incremental silviculture on the future quality of the timber resource were not analyzed in the timber supply review. Information in this section was gathered during the district working session.

Product Objectives

The following product objectives at the log level for the Soo TSA were defined by the participants at the district working session.

Premium Log:	Douglas-fir:	50+ cm min dbh, pruned 5 m 1st log.
	Balsam:	40 - 45 cm min dbh, small tight knots, pruned 5m 1st log. (Balsam is only 5-10% of total timber and is not significant.)
Sawlog:	250 stems/ha 50+cm DBH and average diameter 40 cm.	

Available Information Regarding Potential Treatments and Treatable Area

Treatment	Comment/ Potential Treatment Regimes	Treatable Area
◆ Incremental Silviculture	Soo TSA has an aggressive intensive silviculture program with the objectives of providing 47 000 m3/yr above that from basic silviculture, improving stand value, meeting product objectives and lowering the harvestable age where investment provides an annual return > 4%.	
◆ Spacing	Spacing is not used in this TSA for quality purposes. Due to the sensitivity to minimum harvest ages, spacing is targeted to reducing ages and increasing volumes.	N/A
◆ Commercial Thinning	No CT at time of analysis, however 30 ha planned (SFD). Commercial thinning can increase the value of residual stems. See pruning.	Little treatable area at present.
◆ Pruning - Manual	Soo TSA plan specifies pruning 200 ha/yr. Recent pruning level is around 150 ha/yr 1st lift and 100 ha/yr 2nd lift. Usually the largest 2/3rd's of trees in a stand are pruned, the other 1/3 possibly to be removed through commercial thinning. Only spaced stands are pruned. Some pruning would be conducive to the development of spotted owl habitat, perhaps to the extent that may then not be able to harvest the pruned trees.	
◆ Pruning - Natural	(Discussion re density management and natural pruning of balsam stands.)	

Potential Strategies by Response Time Frame

The following strategies have potential to increase timber quality. These were identified in the district working session. The response time frame is the period in which the anticipated result is expected, not the period in which actions must necessarily commence.

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	Premium Log Forecast
♦ Short Term (1 - 20 yrs)	None	Short term harvests will come from existing very old stands which are not treatable to improve quality.	Quality profile of existing old growth will prevail.	15%?
♦ Mid Term (21 - 70 yrs)	1. Prune 150 ha/yr 1st lift. 2. Prune 100 ha/yr 2nd lift.	1. First and 2nd lift pruning are not done at the same time, except in remote areas where pruning is often being done later than optimal. Assume of the 150 ha, 100 ha is in advance of 2nd lift prune (see next strategy), with 50 ha receiving only a 1 lift pruning. Some concern was expressed in the district working session about the ability to capture the value when only a single lift pruning. Assume value will be obtained through lumber grading but may not be captured as veneer. Scanning technology may be such in the future that maximum value can be obtained. 2. 100 ha/yr is current level. District anticipates this will fall to 50 ha/yr?	1. Assuming value can be captured, premium log component generated will be approx. ½ of two lift pruning (see calc below). 2. Assuming a "steady state" level in comparison to annual area harvested (1 100 ha/yr), 100 ha pruned annually is 100/1 100 or 9% of the total area. If 2/3rd of trees in a stand are pruned, = 6%. Assuming 25% of tree volume is in 1st 5 m log, = .25 X 6 ⇒ 1.5%	1. 00.75% 2. 01.50% Total: 2.25%
♦ Long Term (71 + yrs)	As above.	As above.	As above.	2.25%

Timber Quality Forecast

The foregoing analysis indicates a relatively low premium log content forecast for the mid and long term (2¼% forecast vs. a potential target of 15%). This is a result of the trade-off between quantity of timber supply and quality. A higher level of pruning program than planned would serve to improve future timber quality.

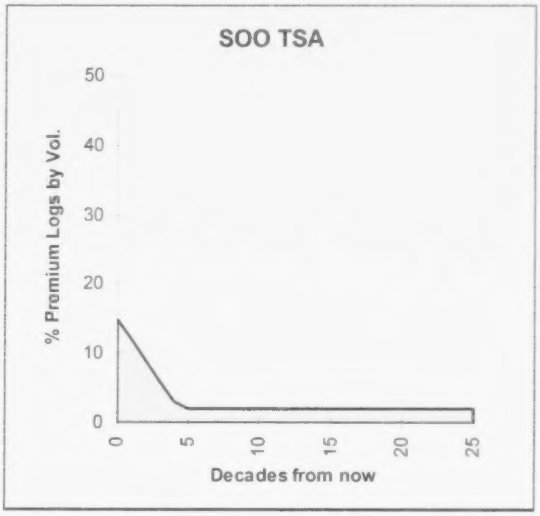

Figure 6. Potential Quality Forecast, Soo TSA

Incremental Silviculture Strategy

General Strategy

The existing age class structure of the Soo TSA makes it particularly sensitive to changes in minimum harvest ages. This, combined with a forecast immediate reduction in timber supply, make increasing timber quantity a priority over improving timber quality. The general strategy, therefore, is to undertake those silvicultural treatments that will advance the technical rotations of existing younger stands and future regenerated stands. A small pruning program on treatable high-site stands will ensure a minimal future supply of premium quality logs.

Working Targets

The preceding analysis indicates the following working targets are attainable. Figure 7 illustrates these.

WT 1 (Quantity): Manage mid-term timber supplies to yield a harvest of 440 000 m3/yr and long term supplies to yield 530 000 m3/yr.

WT 2 (Quality): Manage existing age class 1 & 2 and regenerated stands to yield 2% premium logs by volume, with the majority of the remainder being of sawlog quality.

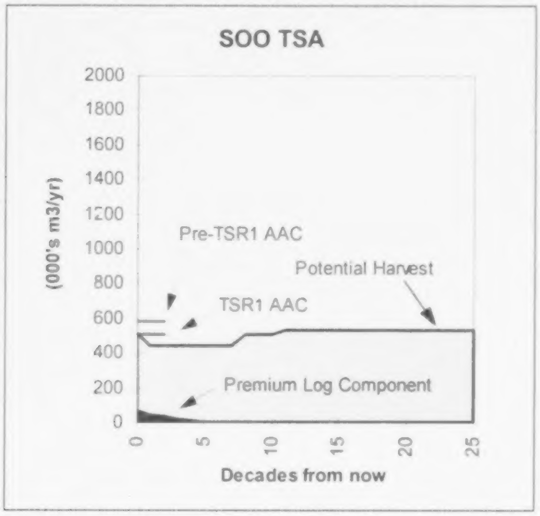

Figure 7. Combined Potential Quantity and Quality Harvest Forecasts, Soo TSA

Log Product Objectives

The following are definitions of premium logs and sawlogs in the Soo TSA.

Premium Log:	Douglas-fir:	50+ cm min dbh, pruned 5 m 1st log.
	Balsam:	40 - 45 cm min dbh, small tight knots, pruned 5m 1st log. (Balsam is only 5-10% of total timber and is not significant.)
Sawlog:	250 stems/ha 50+cm DBH and average diameter 40 cm.	

Silviculture Strategies

The following strategies have identified potential to increase the quantity and quality of the timber supply of the Soo TSA. Strategy numbers correspond with those recorded earlier.

Strategies to Increase the *Quantity* of Future Timber Supply

No.	**Strategy**
MT1	Reduce minimum harvest ages of: (a) younger existing stands (aged 1 - 40 yrs) 10 years by: (i) spacing 3 000 ha and 5 000 ha of remaining high density unspaced Fdc and HB stands respectively, aged FG to 30 yrs (low density stands may be spaced if funds become

available but are not a priority and, if left unspaced, may offer future commercial thinning opportunities);

(ii) fertilizing 10 000 ha of age class 1 & 2 Fdc stands on an 8 year return cycle;

(b) newly regenerated stands by 10 years by undertaking the actions to increase regenerated stand volumes 20% (see LT 1) + spacing to bring harvest ages forward.

MT2 Increase the volume of 2 000 ha Fdc, age class 3 existing stands through fertilization on a 10 year return cycle.

MT3 Design stocking levels on some existing stands to facilitate a possible commercial thinning program in the period 40 - 70 years from now.

MT5 Create owl habitat in 10% of spaced areas.

LT1 Increase regenerated stand volumes 20% by:

(b) using 2nd generation 'A' class seed for Douglas-fir, western hemlock, and engelmann sprruce (requires programs for production of seed for these species for the coastal submaritime zone);

(c) following harvest of some H stands, plant 2nd generation Fdc and S where these species are more suited to the site;

(g) fertilize up to 75% of regenerated stands (requires determination of which H and B stands are responsive).

(Note: these actions are expected to achieve the 20% target when combined with an anticipated 10% increase in site productivity.)

LT2 Expand the timber harvesting land base by:

(a) restocking approximately 250 ha of backlog NSR in the next 5 years and brushing approx 900 ha over the next 10 years. (already incorporated in TSR1 base case)

(b) rehabilitating approximately 1 000 ha of poor-site Pl over 10 years.

Strategies to Increase the *Quality* of Future Timber Supply

No.	Strategy
Q1	1st lift prune 50ha/yr to create knot-free timber in the lowest 3.5 m log.
Q2	2nd lift prune 50 ha/yr to create knot-free timber in the lowest 5 m log. (100 ha/yr required over next 5 years to catch up with the backlog of stands already 1 lift pruned.)

Silviculture Treatments and Investment Priorities

The following table indicates incremental silviculture treatments determined during the district working session to be suitable to attaining the above working targets and strategies. Several treatments may be applied to the same stand in a regime of treatments (however, these regimes are not specifically identified in the table).

Regime Table, Soo TSA, August 1998

			Timber Supply Effects				Direct	Direct		
Regimes	Strategy	Opportunity Area (Ha/Yr)	Short	Medium	Long	Quality	Silv. Jobs Days/ha	Cost $/ha	Habi-tat	Rank
Rehabilitation										
1 Conversion of Pl to Fd (outside current THL	LT2	100/10yrs	0	+	++	0	10	2000	+	5
2 Plant NSR	LT2	50/ 5yr	0	+	++	0	3	650	+	2
3 Backlog brushing	LT2, MT4	150/5yr 25/yr(6-10)	0	+	++	0	5	500	+	2
Spacing[1,2]										
High density										
4 HB >3000 --> 700 sph	MT1	500	0	+	0	+	4	950	+	3
5 Fd > 2000 --> 600 sph	MT1	300	0	+	0	+	4	950	+	3
Low density										
6 HB < 3000 --> 700 sph	MT1	150	0	+	0	+	4	950	+	7
7 Fd < 2000 --> 600 sph	MT1	250	0	+	0	+	4	950	+	7
Pruning										
Fd si 33+										
8 1st lift --> 3.5 m	Q1	50	0	0	0	++	5	1250	+	6
9 2nd lift --> 5m	Q2	100 /5yr 50/yr(6-10)	0	0	0	++	6	1600	+	6
Fertilization										
10 Fd si 25-35, age 10-40	MT1	1250	0	+	0	0	0.1	250	0	1
11 Fd si 25-35, age 40-70	MT2	200	0	+	0	0	0.1	250	0	1
12 **Owl Habitat Enhancement**	Owl	50	0	+	+	0	2	1000	+	4
stocking reduction (post CT)										
girdling for snag trees										
void creation										
underplanting to create a multilayered canopy										

Notes

1 Some stands may be spaced to a lower density to provide deer winter range.

2 Some stands may be spaced to a higher density to provide commercial thinning opportunities.

Incremental Silviculture Program

Refer to 2000 activity templates)
The following annualized program will achieve the above goals and strategies.

Program Table - Ha, Soo TSA, August 1998

Year	Surveys*	Backlog Brushing	Backlog Planting	Space	Prune 1st lift	Prune 2nd lift	Fertilize	Owl
1	4,000	150	50	1,200	50	100	1,450	50
2	4,000	150	50	1,200	50	100	1,450	50
3	4,000	150	50	1,200	50	100	1,450	50
4	4,000	150	50	1,200	50	100	1,450	50
5	4,000	150	50	1,200	50	100	1,450	50
Subtot Yr 1 - 5	20,000	750	250	6,000	250	500	7,250	250
6 - 10	15,000	125	0	6,000	250	250	7,250	250
Total Yr 1 - 10	35,000	875	250	12,000	500	750	14,500	500

* Includes prescription and layout

Unit Cost ($/ha)	90	500	650	950	1,250	1,600	250	1000

Program Table - $ 000s, Soo TSA, August 1998

Year	Surveys*	Backlog Brushing	Backlog Planting	Space	Prune 1st lift	Prune 2nd lift	Fertilize	Owl	Total
1	360	75	33	1,140	63	160	363	50	2,243
2	360	75	33	1,140	63	160	363	50	2,243
3	360	75	33	1,140	63	160	363	50	2,243
4	360	75	33	1,140	63	160	363	50	2,243
5	360	75	33	1,140	63	160	363	50	2,243
Subtot Yr 1 - 5	1,800	375	163	5,700	313	800	1,813	250	11,213
									-
6 - 10	1,350	63	-	5,700	313	400	1,813	250	9,888
									-
Total Yr 1 - 10	3,150	438	163	11,400	625	1,200	3,625	500	21,100

Job Outcomes

The following are the anticipated job outcomes of the preceding program, assuming the program is maintained into the future as necessary to achieve the working targets.

Program Job Outcomes, Soo TSA, August 1998

Short term *employment associated with undertaking the silviculture activity, in person-years*

Year	Surveys*	Backlog Brushing	Backlog Planting	Space	Prune 1st lift	Prune 2nd lift	Fertilize	Owl	Total
1		4.2	0.8	26.7	1.4	3.3	0.8	0.6	38
2		4.2	0.8	26.7	1.4	3.3	0.8	0.6	38
3		4.2	0.8	26.7	1.4	3.3	0.8	0.6	38
4		4.2	0.8	26.7	1.4	3.3	0.8	0.6	38
5		4.2	0.8	26.7	1.4	3.3	0.8	0.6	38
Subtot Yr 1 - 5	0	20.8	4.2	133.3	6.9	16.7	4.0	2.8	189
6 - 10		3.5	0.0	133.3	6.9	8.3	4.0	2.8	159
Total Yr 1 - 10	0	24.3	4.2	266.7	13.9	25.0	8.1	5.6	348

Note: Assumes 180 days of silviculture work = 1 job (Source: Jobs and Timber Accord)

Long term *employment associated with improved quantity of the timber resource*[1]

Decade	Harvest Increment ('000 m3)	Incremental Jobs			
		per year by decade		Total by decade	
		TSA[2]	Region[3]	TSA[2]	Region[3]
1	0	-	-	-	-
2	46	29	55	290	547
3	46	29	55	290	547
4	46	29	55	290	547
5	46	29	55	290	547
6	46	29	55	290	547
7	46	29	55	290	547
8	68	43	81	428	809
9	68	43	81	428	809
10	68	43	81	428	809
11	88	55	105	554	1,047
12	88	55	105	554	1,047
13	88	55	105	554	1,047
14	88	55	105	554	1,047
15	88	55	105	554	1,047
16	88	55	105	554	1,047
17	88	55	105	554	1,047
18	88	55	105	554	1,047
19	88	55	105	554	1,047
20	88	55	105	554	1,047
21	88	55	105	554	1,047
22	88	55	105	554	1,047
23	88	55	105	554	1,047
24	88	55	105	554	1,047
25	88	55	105	554	1,047
Total				11,340	21,420

1 - Assumes continuation of the incremental silviculture program beyond the first 10 years, in accordance with the strategy

The total harvest increment is associated with all silvicultural practices documented in the "Opportunities" section and is only partly attributable to spacing and fertilization practices. Some of the increase may be associated with pre-free growing silviculture that was not current practice at the time of TSR1.

2 - Assumes 0.63 TSA level harvesting and processing jobs (PYs) per 1000 cubic metre (Source: Soo SEA)

3 - Assumes 1.19 Regional level harvesting and processing jobs (PYs) per 1000 cubic metre, inclusive of TSA jobs (Source: Soo SEA)

References

B.C. Ministry of Forests. 1991. *Regional Stand Tending Guidelines*. Vancouver Circular Letter VR91-558. Vancouver Forest Region, Nanaimo, British Columbia. 24p + Appendices.

________. 1994a. *Soo TSA: Timber Supply Analysis*. Timber Supply Branch, Victoria, British Columbia. 62p.

________. 1994b. *Soo Timber Supply Area: Timber Supply Review Discussion Paper*. Timber Supply Branch, Victoria, British Columbia. 14p.

________. 1994c. *1994 Soo Forest Management Plan*. Squamish Forest District, Squamish, British Columbia.

________. 1996. *Forest Management Issues identified Through the AAC Determination Process*. Timber Supply Branch, Victoria, British Columbia. 331p.

________. 1997a. *Summary of Timber Supply Review Results 1992 to 1996*. Timber Supply Branch, Victoria, British Columbia. 20p.

________. 1997b. *Assumptions Included in Timber Supply Analyses: Timber Supply Areas & Tree Farm Licences*. Forest Practices Branch, Victoria, British Columbia. 115p.

________. 1997c. *Soo Timber Supply Area: Information Report*. Timber Supply Branch, Victoria, British Columbia. 15p.

________. 1997d. *Soo Timber Supply Area Timber Supply Review Data Package*. Timber Supply Branch, Victoria, British Columbia. 24p.

________. 1998a. *Guidance towards Participation in the Forest Renewal BC Planning Process and the Development of Resource Management Plans*. Victoria, British Columbia. 20p.

________. 1998b. *Vancouver Region Incremental Silviculture Objectives*. Handout. Vancouver Forest Region, Nanaimo, British Columbia. 1p.

McWilliams, Eleanor and Guillaume Therien, 1997. *Fertilization and Thinning Effects on a Douglas-fir Ecosystem at Shawnigan Lake: 24-year Growth Response*. FRDA Report 269, revised edition. Joint publication of the Canadian Forest Service and the British Columbia Ministry of Forests, Victoria, British Columbia. 44p.

Pedersen, L. 1996. *Soo Timber Supply Area Rationale for Allowable Annual Cut (AAC) Determination*. Victoria, British Columbia. 35p + Attachments.

Timberline Forest Inventory Consultants Ltd. 1997. *Forest Level Benefits to Commercial Thinning and Fertilization*. Prepared for the B.C. Ministry of Forests, Forest Practices Branch, Victoria, British Columbia. 64p.

September 30, 1999

INCREMENTAL SILVICULTURE STRATEGY

A COMPONENT OF THE SUNSHINE COAST FOREST DISTRICT

2000
RESOURCE MANAGEMENT PLAN

(for program update refer to 2000 activity templates)

Sunshine Coast
Timber Supply Area

Incremental Silviculture Strategy (Interim)

-- Version 1.0 --

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British Columbia

Ministry of Forests

Funded By

Forest Renewal BC

August 31, 1998

STRATEGY AT A GLANCE

General Strategy

The Sunshine Coast TSA has substantial opportunity to sustainably increase future timber supply. A general strategy of increasing existing and regenerated stand volumes as well as overcoming forest cover constraints in the visual quality zones will accomplish this. A stable timber supply also allows a focus in this TSA on strategies to generate high quality premium logs, particularly large clear timbers.

Working Targets

Quantity: **Error! Reference source not found.Quality**: **Error! Reference source not found.**

Product Objectives

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Major Silvicultural Strategies

Quantity

(Some of the following are not within the traditional scope of incremental silviculture but are included here for completeness.)

1. Achieve green-up 5 years earlier by reducing regeneration delay 2 years; planting large, second generation, improved stock; and fertilizing at the time of planting.
2. Increase partial harvesting / commercial thinning regimes in VQO zones.
3. Repeat fertilize approximately 4 000 ha of existing stands scheduled for harvest 20 to 80 years from now (300 ha/yr in spaced stands & 100 ha/yr in commercially thinned stands) to raise their volumes.
4. Increase regenerated stand volumes 15% through a variety of silvicultural actions (tree improvement is critical to success).
5. Brush 400 ha to maintain backlog plantations.

Quality

1. 1st lift prune 400ha/yr to create knot-free timber in the lowest 3.0 m log.
2. 2nd lift prune 250 ha/yr to create knot-free timber in the lowest 5.1 m log.
3. Space 1200 ha/yr to obtain large dimension timber and prepare stands for fertilization and pruning.

Incremental Silviculture Program (ha)

Year	Surveys*	Backlog Brushing	Space	Prune 1st lift	Prune 2nd lift	Fertilize	Health
1	2,000	100	1,200	400	250	400	400
2	2,000	100	1,200	400	250	400	400
3	2,000	100	1,200	400	250	400	400
4	2,000	50	1,200	400	250	400	425
5	2,000	50	1,200	400	250	400	450
Subtot Yr 1 - 5	10,000	400	6,000	2,000	1,250	2,000	2,075
6 - 10	10,000	-	6,000	2,000	1,250	2,000	2,075
Total Yr 1 - 10	20,000	400	12,000	4,000	2,500	4,000	4,150

* Includes prescription and layout

Introduction

About the Interim Strategy

The terms of a service agreement between Forest Renewal BC (FRBC) and the BC Ministry of Forests (MoF) require the MoF to develop, and FRBC to fund, what is essentially an incremental silviculture strategy. This document is in fulfillment of this contractual requirement.

Incremental silviculture is part of a suite of strategies which together may influence the future quality and quantity of habitat and timber supply. This strategy document broadly analyzes the full potential range of silviculture activities in order to create a context for an incremental silviculture strategy.

An incremental silviculture strategy should not be confused with the allowable annual cut (AAC) determination process. AAC's are based on actual practice and current information at the time of the determination. This strategy, on the other hand, is about creating a future state of our forests. The degree to which the strategy proves appropriate and is achieved may influence future, but not necessarily present, AAC determinations.

This strategy is founded on readily available information and the knowledge of forestry professionals. It is intended as an interim strategy until a more in-depth analysis-based review is completed.

Methodology

This strategy was prepared through the following process:

1. Prior to the district working session, L. P. Atherton & Associates prepared a preliminary draft of this document, summarizing all available information relevant to a strategy and identifying opportunities to improve the future quantity and quality of timber supply.
2. A district working session was held July 20 & 21, 1998 in Powell River, attended by representatives of the MoF and forest licensees of the Sunshine Coast TSA. Larry Atherton of L. P. Atherton & Associates and Doug Williams of Cortex Consultants Inc. led the session. Participants reviewed the potential opportunities identified in the draft document along with others that arose. The outcome of the session was a regime table, complete with priorities.
3. The consultants incorporated the results of the working session into the draft document and added forecasts of future harvest quantity and quality and of job outcomes.
4. After ministry review, the consultants submitted a completed strategy document to the MoF in electronic format as version 1.0. (The ministry will assign higher version numbers (e.g., 1.1, 1.2, etc.) as the strategy evolves and changes are made.)

Acknowledgments

The participation of representatives of the following organizations at the district working session is gratefully acknowledged.

Ministry of Forests:

- Sunshine Coast Forest District;
- Vancouver Forest Region.

Forest licensees of the Sunshine Coast TSA:

- Interfor
- Canfor
- Scott Paper
- MacMillan Bloedel
- Western Forest Products
- Terminal Forest Products

The project was managed by Mr. Larry Sigurdson of the Ministry of Forests, Vancouver Forest Region. Funding was provided by Forest Renewal BC.

Basic Data

Land Area

Description	Area (ha)	Area %
Total Area of TSA	1 121 100	100
Total Productive Crown Forest	447 500	40
Net Timber Harv. Land Base	219 000	20

Source: TS analysis report - rounded to nearest 100 ha.

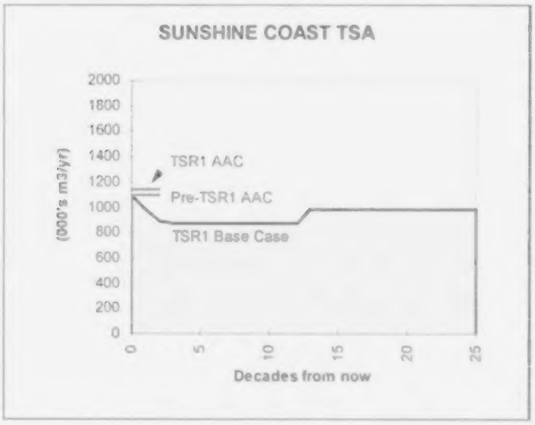
AAC

AAC Type	Pre-TSR	TSR1*	Change (%)
Conventional	1 100 000	1 045 000	-5.0
Deciduous	-	95 000	∞
Insect/Disease	-	-	-
Marginal	-	-	-
Total	1 100 000	1 140 000	+3.6

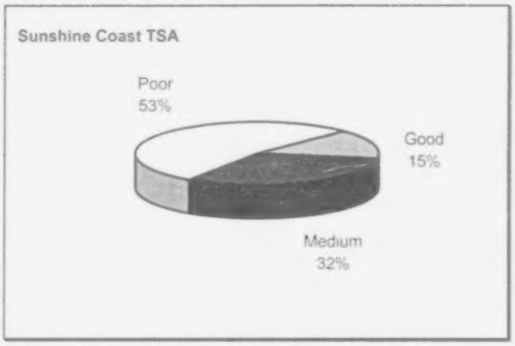
Woodlot AAC

*effective July 1/96

Harvest Forecast

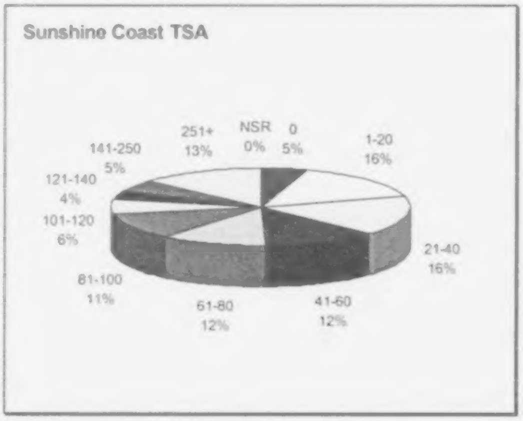


Site Class



Data scaled from chart in TS analysis report.

Age Class



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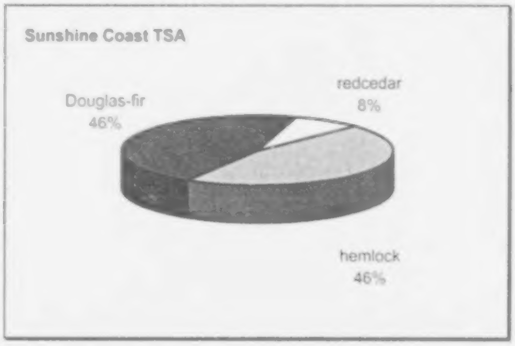
Tree Species



Issues

Individual Issue Analysis

The following information is primarily from documentation produced under the first timber supply review, or TSR1. Sources are noted, with full references given on page 29. Only information which is relevant to an incremental silviculture strategy is recorded. Key statements are bolded.

Abbreviations: AAC - allowable annual cut; THLB - timber harvesting land base; IHL - initial harvest level; LTHL - long term harvest level; CF - chief forester; TSR - timber supply review; CT - commercial thinning.

Species abbreviations: Fd - Douglas-fir; Fdc - coastal Douglas-fir; Hw - western hemlock; Cw - western redcedar; B or Ba - balsam fir.

Site class abbreviations: G - good; M - medium; P - poor.

♦ Harvest Forecast	The initial harvest level of 1 100 000 m3 (the pre TSR AAC) can be maintained for only one decade, followed by a decline at a rate of 10%/decade over basically after 2 decades to a mid term level of 876 000 m3 (20% below the IHL). The harvest level rises 130 years from now, at the start of decade 14, to a long term harvest level of 986 000 (10% below pre-TSR AAC). (analysis, 13)
♦ Age Class	Approximately 65% of THLB in stands aged 100 years or less in a relatively balanced distribution of age classes, largely due to the long history of harvesting in the TSA. In approximately 50 yrs, about ½ of the THLB is expected to be managed stands. (rationale, 18)
♦ Forest Cover	*IRM Zone*: 40% of THLB. Base case requirement of at most 33% of THLB permitted to be < 3 m tall (3 pass system). Sensitivity test of ± 1 pass. Sensitivity test not reported in the timber supply analysis report but CF notes the base case is insensitive to either an increase or decrease. (rationale, 26) *Visual Quality Zones*: 55% of THLB. Base case requirement of at most 5% (retention VQO), 10% (partial retention VQO) and 20% (modification VQO) to be < 5 m tall. Sensitivity test of ± 5%. (analysis, 30) Relaxation: (+5%) **Highly sensitive over all terms** - allows harvests to remain almost constant at the current AAC. Increase: (-5%) **Highly sensitive** - decrease of 10% in first 3 decades from base case, almost 30% below mid term, and 15% below long term. *Green-up*: 13 yrs in IRM zone, 16 yrs in retention and partial retention VQO zones, and 18 yrs for the modification zone. Sensitivity test of ±5 years. (analysis, 31) Relaxation: (- 5 yrs) **Highly sensitive**. 1st decade same as base case, but dramatic increases thereafter. **Mid term trough below LTHL almost eliminated** (16% above base case). LTHL only 8% below current AAC (6% above base case). However, **CF finds it unlikely that green-up ages will be reduced 5 years** (rationale, 26). Increase: (+ 5 yrs) **Highly sensitive** - initial harvest level 10% below base case. Mid and long term about 6% below base case.
♦ Backlog NSR	Less than 200 ha of backlog NSR. District staff conducting assessment of treatments for

	these areas. (rationale, 23) [These appear to be included in initial THLB.]
◆ Quality	• 23 411 ha of alder forest types deducted from THLB (rationale, 15). Partition of 95 000 m3 for deciduous species. • 17 809 ha (equiv to 8% of THLB) of low productivity forest types deducted from THLB (not reaching 300 m3/ha by age 150 and < specified site index criteria). CF consider almost ¼ of this should be in THLB. (rationale, 19 - 20) • 77 ha of brush deducted from THLB. (analysis, 7)
◆ Older Forests	Base case does not include a requirement for old growth or biodiversity as there are no specific provisions applied operationally in the TSA. Chief forester acknowledges that additional requirements are likely to present some risk to future timber supplies (rationale, 30).
◆ Min. Harvest Ages	Base case uses ages within 5% of culmination ages as min. harvest ages and the stand has achieved a min harvest vol of 350 m3. Range from 60 - 160 yrs, avg. of 110 yrs. Sensitivity analyses of ± 20 yrs. Slight sensitivity to either in long term. (analysis, 23-24) Decrease: (- 20 yrs) Short term insensitive. Mild sensitivity mid term, with harvest levels 5% above base case. LTHL 1% higher. Increase: (+20 yrs) **Short term highly sensitive 21% below base case**. Insensitive mid term.
◆ Silvicultural Systems	Most of the THLB is currently managed under a clearcut harvesting system. Use of alternative systems increasing. CF notes potential to use CT to buffer the impact of increasing constraints by moving operations into areas that would otherwise be unavailable. (rationale, 23-24)
◆ Estimates of Timber Volumes	VDYP used for existing stands older than 20 years. TIPSY used for all regenerated stands and existing stands aged 20 or less. (analysis, 55) *Existing stand volumes*: CF finds no evidence to suggest existing stands are over-estimated (rationale, 18). Sensitivity test for ± 10% in volume. Long term insensitive to either increase or decrease. (analysis, 26-27) Increase: (+10%) Short term insensitive as **volume deferred to filling in mid term trough which is almost eliminated**. Decrease: (-10%) **Highly sensitive**. Initial volume reduced 25% below base case for 1st decade and about 4% below in the mid term. Smaller vol/ha requires more area be forested which is restricted by visual quality forest cover requirements. *Regenerated stand volumes*: TIPSY OAF1 - 5%; OAF 2 - 15%, except 12% for Fdc (rationale, 20 - 21). Sensitivity tests for ± 20% in volume. Short term insensitive to either. **Highly sensitive to both in long term**. (analysis, 27-28) Increase: (+20%) Mid term about 6% above base case. LTHL 22% higher than base case, rising from mid term shortfall 110 years from now. Decrease: (-20%) Harvest levels decrease steadily to LTHL 21% lower than base case.
◆ Site Productivity	Old growth site indexes may be underestimated (rationale, 19). Site index change simulated by changing regen stand volumes ±10%, minimum harvest ages ±10%, and green-up ages ± 3 years. In addition to the direct effect of regen stand volume changes, also interacts with forest cover requirements (analysis, 28-29). Increase: Mid term about 10% above base case. LTHL 16% higher than base case, rising

	from mid term shortfall 110 years from now. Decrease: Harvest levels decrease steadily to mid term shortfall 14% below base case rising about 130 years from now to an LTHL also 14% lower than base case.

Summary of Issues by Period

Short Term (1 - 20 years)

The relatively balanced age class structure results in the lowest percentage forecast harvest reduction of any TSA in the Vancouver Forest Region. However, this balanced age class situation also places a heavy reliance on those stands at the front of the harvest queue being available in the short term. Thus the short term is highly sensitive to increases in adjacency constraints in the VQ zones, increases in green-up ages, increases to the minimum harvest ages and decreases to existing stand volumes.

Mid Term (21 - 130 years)

A reason for the early mid term drop below LTHL is not provided in the analysis report but its likely due largely to the application of VDYP (with lower volumes) to the existing mature and immature stands. A 10% increase in existing stand volumes almost eliminates the shortfall. Relaxation of forest cover constraints in the VQ zone also eliminates the trough. Thus there is a potential opportunity for a fertilization and CT regime to eliminate the shortfall.

Long Term (131 + years)

Because of the extensive area within the visual quality zones, the long term is highly sensitive to changes in visual quality constraints and to changes in green-up ages.

As is the case in virtually all management units, the long term is sensitive to changes in regenerated stand volumes. A 1% increase or decrease in volume results in a corresponding approximate 1% increase or decrease to LTHL.

Future

Older forest, biodiversity and Forest Practices Code requirements are likely to have significant future impacts on timber supply.

Incremental Silviculture History

Approximately 2 000 ha are harvested annually.

Treatment	TSR1 Status (1995)		Current Status (1998)
	Incorporated in Timber Supply Analysis	Not Incorporated in Timber Supply Analysis	Source: SCFD[1]
♦ Backlog	200 ha restocked in near future.		All backlog has been treated. Brushing required on 400 ha to maintain plantations.

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[1] SCFD - Sunshine Coast Forest District

Treatment	**TSR1 Status (1995)**		**Current Status (1998)**
	Incorporated in Timber Supply Analysis	**Not Incorporated in Timber Supply Analysis**	Source: SCFD[1]
◆ Conversion			
◆ Commercial Thin			30 ha/yr have been commercial thinned over the past two years. The 5 yr plan calls for 30 - 60 ha/yr.
◆ Space	TIPSY used on stands regenerated over the past 20 years. Assumes incremental spacing for stocking control on stands harvested prior to 1987 and basic spacing thereafter.		Recent levels have been between 600 to 1 000 ha/yr spaced.
◆ Prune			Current levels is between 300 - 500 ha/yr.
◆ Fertilize			Current practice is 1 000 ha every 5-6 years.
◆ Space/ Prune		Combinations not indicated.	Only spaced stands are pruned. About ¼ of low and mid elevation stands are being pruned.
◆ Space /Fertilize		"	Only spaced stands are fertilized.
◆ Other		None indicated.	

Higher Level Goals and Objectives

This section documents higher level goals and objectives relevant to an incremental silviculture strategy for the TSA.

Provincial Goals

Fundamentally, government's goals can be characterized as:

- sustainable use;
- community stability; and
- a strong forest sector. (MoF, 1998a)

Provincial Objectives

Until provincial targets for timber quantity and quality are established, management unit strategies are to consider the following interim provincial strategic objectives (MoF, 1998a). Incremental silviculture strategies must also be in keeping with higher level plans under the Forest Practices Code.

Objective 1:	Maintain current harvest levels as long as possible without creating disruptive shortfalls in future timber supply.
Objective 2:	Create a long term timber supply capable of supporting a steady long term provincial harvest level similar to current levels.
Objective 3:	Minimize the interim shortfall in provincial harvest anticipated before a steady long term timber supply is achieved.
Objective 4:	Create a long term timber supply which will enable the timber quality profile of future harvests to be the same or better than the current profile.

It is recognized that not every management unit has the same capability to contribute to these interim objectives. Further, it is recognized that these objectives may not be attainable at current funding levels. Their purpose is to provide general guidance to the application of available funds.

Regional Objectives

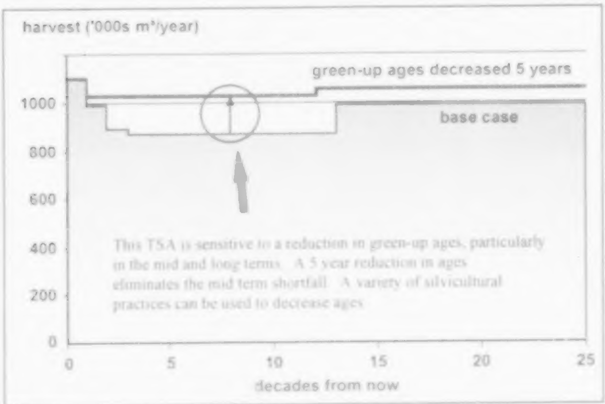
The objectives of the regional incremental silviculture strategy are to:

- Ensure a long term sustainable harvest which approximates the current harvest value and volume levels and that produces a diversified mix of products necessary to create and maintain sustainable forest employment.
- Balance treatments that enhance growth and yield such as fertilizing, spacing and forest health activities with those that increase the value of the wood such as pruning.
- Utilize incremental silviculture treatments to contribute to sustainable management of non-timber values at the landscape level. (MoF, 1998b)

Opportunities to Increase Timber Supply

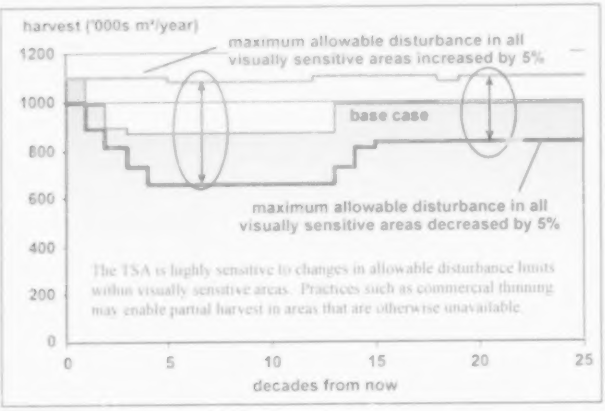
Opportunities Indicated Through TSR Sensitivity Analyses

TSA modelling in support of planning incremental silviculture has not yet been undertaken. In its absence, sensitivity analyses from the TSR1 analysis report are the best source of information as to the opportunities for incremental silviculture to increase future timber supply. The following are selected sensitivity analsysis charts from the TSR1 analysis report, to which opportunity information is added. Detailed analyses are required to confirm the indicated effects.



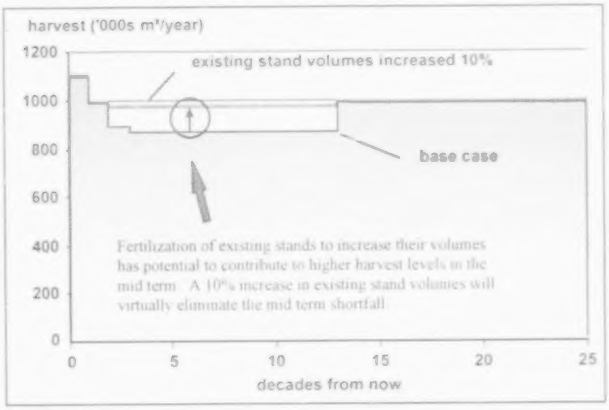
This TSA is sensitive to a reduction in green-up ages, particularly in the mid and long terms. A 5 year reduction in ages eliminates the mid term shortfall. A variety of silvicultural practices can be used to decrease ages.

Figure 1. Changes in green-up ages, Sunshine Coast TSA



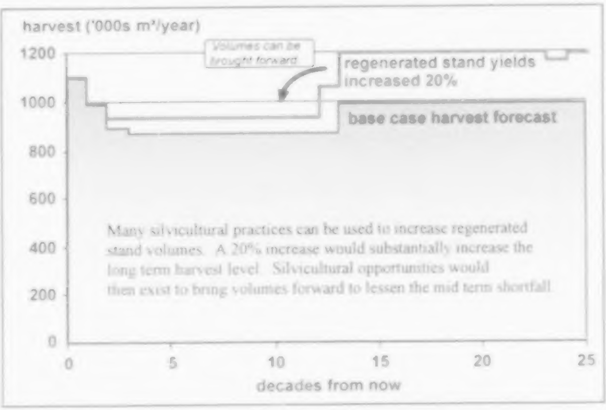
The TSA is highly sensitive to changes in allowable disturbance limits within visually sensitive areas. Practices such as commercial thinning may enable partial harvest in areas that are otherwise unavailable.

Figure 2. Changes in adjacency requirements in the visual quality zones, Sunshine Coast TSA



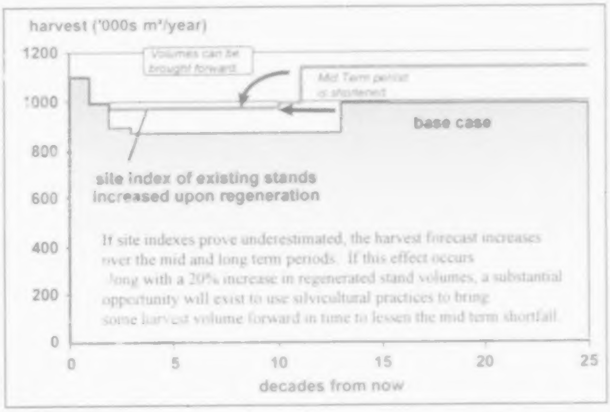
Fertilization of existing stands to increase their volumes has potential to contribute to higher harvest levels in the mid term. A 10% increase in existing stand volumes will virtually eliminate the mid term shortfall.

Figure 3. Changes in existing stand volumes, Sunshine Coast TSA



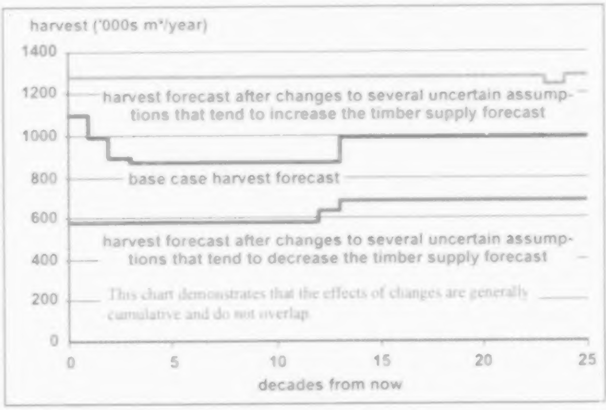
Many silvicultural practices can be used to increase regenerated stand volumes. A 20% increase would substantially increase the long term harvest level. Silvicultural opportunities would then exist to bring volumes forward to lessen the mid term shortfall.

Figure 4. Changes in regenerated stand volumes, Sunshine Coast TSA



If site indexes prove underestimated, the harvest forecast increases over the mid and long term periods. If this effect occurs along with a 20% increase in regenerated stand volumes, a substantial opportunity will exist to use silvicultural practices to bring some harvest volume forward in time to lessen the mid term shortfall.

Figure 5. Changes in site index estimates, Sunshine Coast TSA



This chart demonstrates that the effects of changes are generally cumulative and do not overlap.

Figure 6. Cumulative effect of several changes,
Sunshine Coast TSA

Preliminary Identification of Silviculture Opportunities

Prior to the district working session, information in the previous sections was used to identify the following silvicultural strategies as having potential to increase future timber supply at the TSA level. Each of these was discussed in detail in the district working session, the results of which are recorded in "Potential Strategies by Response Time Frame," page 11, along with additional strategies that arose during the meeting. Strategies that are ultimately adopted are noted in "Silviculture Strategies," page 24.

Short Term (1 - 20 yrs)

ST 1: achieve green-up 3-5 years earlier in VQ zones through a variety of actions.

ST 2: fertilize all suitable stands scheduled for harvest in the 2nd decade.

ST 3: overcome adjacency limitations by implementing partial harvesting/CT regimes in VQO zones.

Mid Term (21 - 130 yrs)

MT 1: complete the inventory audit and site index estimation studies..

MT 2: continue partial harvesting/CT regimes as in ST 3

MT 3: repeat fertilize all suitable existing stands scheduled for harvest 20 to 80 years from now to both raise existing stand volumes and lower minimum harvest ages.

MT 4: increase the volume of regenerated stands by 20%, achieve green-up 3-5 years earlier, and reduce minimum harvest ages 10 years through a variety of actions.

MT 5: reduce the shortfall below LTHL by using CT/fertilizing regimes commencing in about 80 years to bring forward volumes from the long term.

Long Term (131+ yrs)

LT 1: continue MT 4.

Available Information Regarding Potential Treatments and Treatable Area

This section summarizes available information directly relevant to the potential treatments for the TSA.

Treatment	Comment	Treatable Area
◆ Spacing		
◆ Fertilization	On an individual stand basis, a yield increase of 5% is anticipated following 1 application after spacing and 1 prior to harvest. (SCFD)	Significant proportion of Fdc stands.
◆ Commercial Thinning	Little CT as of analysis date. Some planned. Concerns over root rot and accessibility. CF notes potential to use CT to buffer the impact of increasing constraints by moving operations into areas that would otherwise be unavailable.	Significant areas in suitable age classes. However, because of access and topography

Treatment	Comment	Treatable Area
		limitations, there are not many available stands.
◆ Partial Harvesting	There is a general district trend towards partial harvesting in the visual quality zones. This may include CT where appropriate.	
◆ Rehabilitation	No rehabilitation program reported in TS analysis.	No opportunity (SCFD).
◆ Alder Conversion	Significant areas of alder will be either converted to conifer or younger alder through the 95 000 m3 partitioned AAC for alder. The district is required to regenerate 35 ha/yr to alder (trials).	
◆ Backlog NSR	None.	
◆ Non-merch Forest Types	Most area deducted in timber supply analysis already accounted for in deciduous partition and increase in THLB associated with special site classifications for some low productivity sites.	

Potential Strategies by Response Time Frame

Explanatory notes with respect to the following tables.

Column Number	Note
1	The response time frame is the period in which the anticipated result is expected, not the period in which actions must necessarily commence.
2	Strategy numbers correspond with the numbers recorded earlier in "Preliminary Identification of Silviculture Opportunities," page 10. Items followed by an asterisk (*) were added during the district working session.
3	Information is largely from a meeting of ministry personnel and forest licensees held 20 & 21, 1998 in Powell River (the "district working session") combined with information presented earlier in this document.
4	Anticipated results are typically calculated using the timber supply response indicated by TSR1 sensitivity analyses.
5	The harvest forecast for the short term uses the TSR1 AAC as the starting level in the first decade, and the TSR1 AAC less 10% for the 2nd decade (as per the base case). Mid and long term harvest forecasts take the base case levels from TSR1 as the starting levels, adjusted for an increased land base associated with the new TSR1 partitioned AAC for alder (based on a 4000 ha incr. in THLB which TSR1 sensitivity tests indicate would increase harvest levels 2%. The harvest forecast column was not thoroughly reviewed during the district meeting. *Results are largely conjecture and are meant to illustrate the potential of the strategies.* The harvest forecast does not contain adjustments to reflect the changes in the THLB associated with the TSR 1 AAC determination.

In the AAC rationale, the chief forester identified a number of potential downward influences on timber supply. For the purposes of this strategy, however, a status quo is assumed with respect to these.

Should any arise, the following strategies would serve to mitigate their effects rather than increase timber supply.

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	Harv Forecast (000s m3/yr)
◆ Short Term (1 - 20 yrs)	1. Achieve green-up 3 - 5 years earlier in ~~VQ~~ all zones by: (a) Planting large genetically improved stock; (b) spacing and fertilizing suitable regenerated stands; and (c) reducing regeneration delay.	1. A new definition of green-up has recently been issued. This effectively lowers green-up ages. In the working session, it was found that this potential strategy needs to apply to all zones to attain the effects indicated by the sensitivity test. (a) 70%-80% of areas are planted with genetically improved stock. All Fdc, and Cw (which is 70-80% of planting) is improved. No improved Hw. First gen seed has 3-5% yield gain (see MT4), but effect on earlier green-up is unknown. Assume 1 yr. Larger stock could be used but not likely in current economic conditions. Basic silviculture item. Depending on size of stock, could reduce green-up ages 1 yr. (b) Spacing would have little effect on green up as trees are not in serious competition for much of this time. A minor amount of fertilizing is taking place at time of planting (not presently eligible for FRBC funding and not likely to be voluntarily undertaken unless necessary to achieve FG). This costs \$.08 for the tea bag & \$.05 to place. Post FG / pre 5 m green-up can be funded by FRBC but is not currently happening. Assume 2 yr reduction in ages for 5 m greenup as being possible if fertilized at time of planting. (c) TSR 1 regen delays are 3 yrs for planted and 6 yrs for natural. Current practice is 1 yr planted and 3 natural -- a 2 yr gain. The above indicates that, on the whole, a 3 yr earlier green-up is attainable through silvicultural practices.	1. Sensitivity analysis indicates that a 5 yr reduction in ages results in a 2% gain in the 2nd decade. If ages are reduced 3 yrs through silvicultural actions, and the definition change accounts for a further 2yr reduction, this gain could be realized. ⇒ 2% (2% X 1.03 = .02)	1.14 1st dec. 1.03 2nd dec. 0.02 grn-up 0.00 fert 0.02 prt harv 1.07 total
◆	2. Fertilize all suitable stands scheduled for harvest in the 2nd decade.	2. The bulk of stands coming up for harvest are too old for fertilization. They would have to be CT'd first to open up the canopy to provide room for it to expand in response to fertilization. Constraints on water quality further limit the amount of fertilization that can be done.	2. N/A	

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	Harv Forecast (000s m3/yr)
◆	3. Implement partial harvesting (CT?) regimes in VQO zones.	3. VQO zones are 55% of THLB. MacMillan Bloedel is partial harvesting in its TFL. Interfor is doing some in the TSA. Currently no more than 200 ha/yr, < 10% of harvest in TSA. Will likely increase when necessary to access timber. Root rot can limit CT options in Fdc stands. Further study of root rot management techniques and options are needed. Noted under "Summary of Information and Research Needs," page 25. Log products from thinning are very sensitive to market prices. On the whole, participants in the district working session felt partial harvesting and CT could increase over time.	3. TSR1 sensitivity test indicates a 5% increase in allowable disturbance limits results in a 10% increase in 2nd decade harvests. Assume partial harvesting doubles to 20% of harvest (.2 X .10) ⇒ 2%	
◆ Mid Term (21 - 130 yrs)	1. Complete the inventory audit and site index estimation studies.	1. Studies are currently underway. The need for their completion is noted under "Summary of Information and Research Needs," page 25. If existing volumes and/or site indices prove underestimated, mid term harvest levels could be substantially higher than the base case. Cruise volumes have been 20% below actual scale volumes.	1. Results unknown. Not factored into this harvest forecast.	876 - base case 18 - Decid adj 44 - Part Harv 0 - Fert 0 - Min ages 44 - regen vols 140 - green-up 0 - min ages 1122 ≅ 1120
◆	2. Implement partial harvesting (CT?) regimes in VQO zones.	2. See ST 3. Requires modelling.	2. Sensitivity test indicates a 5% relaxation in VQO zone yields a 25% incr. in mid term harvests. Assume part harv doubles to 20% of area and this = 2/10 of a 5% relaxation (.2 X .25) ⇒ ≅ 5% increase.	

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	Harv Forecast (000s m3/yr)
◆	3. Repeat fertilize all suitable existing stands scheduled for harvest 20 to 80 years from now to: (a) raise existing stand volumes; and	3. (a) If 25% of stands aged 41-100 (35% of THLB) are suitable for fert, would equal 55 000 ha. On a 10 yr return cycle, this would be a program of ≅ 5 500 ha/yr. However, many existing stands are too old for spacing and would have to be commercially thinned before fertilization. Watershed issues also limit fertilizer application. After taking these factors into account, a **program of 300 ha/yr in spaced stands and 100 ha/yr in CT'd stands** is the maximum presently possible. This equates to 4 000 ha under a repeat fertilization regime, which = 2% of THLB. (Recent program has been roughly 1 000 ha every 5 or 6 years.) See also, MT4 (v).	3. (a) Assume 2% of THLB) suitable for fert. and 10% volume gain ⇒ 0.2% increase. (negligible)	
	(b) lower min harvest ages.	(b) Usually managers have the choice following fertilization to either maintain the planned harvest age and harvest higher volumes, or harvest the original volume at an earlier age, but not both. In this TSA, because there is greater sensitivity to volume than to minimum ages, the response is assumed to be desired in the volume form - see (a) above.	(b) N/A.	
◆	4. (a) Increase regenerated stand volumes 20% (b) achieve green-up 3 - 5 years earlier, and (c) reduce minimum harvest ages by 10 years by: (i) reducing time to regeneration; (ii)using A class seed or better; (iii)using large planting stock; (iv)managing stocking to reduce voids 5%;	4. (i), (iii) See ST1. (ii) 70%-80% of areas are planted. Of this, about 65% and 15% is genetically improved Fdc and Cw stock respectively. About 15% and 5% is planted with 'B' class Hw or other species respectively. Latest estimates of yield gains are (%):[2] Species / 1st gen / 2nd gen Doug-fir / 3-5 / 15 Hemlock / 3 / 20 Cedar / 3 / 10 Yield gains were not included in TSR 1. Assume a 10% avg yield gain from 2nd gen seed. (iv) TIPSY standard OAF1 factor for voids is 15%. Objective is to reduce this to 10%. Current free growing requirements will result in < 15% in voids, however the actual amount is unknown. There is a need for completion of surveys for voids to get a measure of the actual area in voids (noted under "Summary of Information and Research Needs," page	4.	

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[2] Source: participants at district meeting for Fraser TSA, held in Rosedale.

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	Harv Forecast (000s m3/yr)
		25). Voids can be desirable for wildlife habitat, so intensive void management may not be practicable on all areas. Guesstimate that intensive void management could be achieved on ½ of areas. If practiced on ½ of areas and voids reduced by 5% = .5 X .05 ⇒3%		
	(v) fertilizing regenerated stands where efficacy is proven; and	(v) Hw response to fertilization is variable. Further information is required (noted under "Summary of Information and Research Needs," page 25). Including Hw and approx 2/3rds of Fdc, possibly 40% of the THLB could be under a fertilization management regime. However, considerations such as watershed sensitivities, Fdc root rot, etc. probably reduce this by ¾, to 10% of THLB. This would place roughly 20 000 ha ultimately under fertilization management. On a 10 yr return cycle this would mean an annual program of 2 000 ha. As more stands come under management the fertilization program could be expanded gradually to this level. At the present, there is a lack of candidate stands for treatment (see MT3a). Assume a 10% gain (.1 X .1) ⇒ 1% overall.		
	(vi) root rot management in Doug-fir.	(vi)TIPSY OAF2 for Dfc of 12% used in TSR 1. Normal OAF2 is 5%. When combined with OAF1, there is a net 6% difference in total stand yield caused by a higher OAF2. See ST3 re the need for further study of root rot management. Managing root rot requires an **annual program of 200 ha/yr aerial surveys, 100 ha/yr of ground surveys and 100 ha/yr of treatments.** Treatment normally consists of removing bridge trees to contain infection centres, but other forms of treatment are also undertaken. Assume no gain for now. (a) From the above, it would appear a 15% gain in regenerated stand volumes is achievable. A mid term rise in harvest levels results because less mature timber has to be held throughout this time period. (b) See ST1. A 5 yr earlier green-up is possible given the potential for improved silvicultural practices and the recent change in standards for measuring green-up. (c) See MT3(b) No impact.	(a) Sensitivity analysis indicates a 20 yr increase in regen stand vol's will result in a 6% increase in mid term harvest levels. A 15% gain = (.75 X .06) ⇒ 5%; (b) Sensitivity analysis indicates a 5 yr reduction in green up ages results in a 16% increase in mid term harvest levels. ⇒ 16% increase. (c) N/A. Increased site productivity may further compound these effects.	
♦	5. Reduce shortfall below LTHL by using CT/fertilizing regimes commencing in about 80	5. This item was not reviewed in the district working session. CT will be a future action commencing in a significant way (for this purpose) about 80 years from now. Planning ahead for this has implications for current spacing and fertilization programs. Timberline study (see "References")	5. Requires modelling. Assume 5% can be transferred over last 3 decades = 5% of 1	over last 5 decades of MT. decade vol 11 1.17

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	Harv Forecast (000s m3/yr)
	years to bring forward volumes from the long term.	indicates substantial possibility.	100 000 m3/yr ≅ 55 000 /yr. A 30% vol removal by CT would yield about 200 m3/ha. Requires about 55 000/200 or 275 ha/yr of CT.	12 1.17 13 1.17 etc.
◆ Long Term (131+ yrs)	1. (a) Increase regenerated stand volumes 20% (b) achieve green-up 3 - 5 years earlier, and (c) reduce minimum harvest ages by 10 years by continuing activities under MT4.	1. See MT 4. Assume: (a) a 15% gain on regen stand volumes; (b) a 5 yr reduction in green-up ages; and (c) no change due to reduction in min harvest ages.	1. (a) Sensitivity analysis indicates a 20 yr increase in regen stand vol's will result in a 22% increase in mid term harvest levels. A 15% gain = (.75 X .22) ⇒ 17%; (b) Sensitivity analysis indicates a 5 yr reduction in green up ages results in a 6% increase in long term harvest levels. ⇒ 6% increase. (c) N/A Increased site productivity may further compound these effects.	986 - base case 20 - Decid adj 168 - regen vols 59 - green-up 0 - min ages 1233 ≅ 1230 Over 1st 3 decades of LT 0.05 million m3 transferred to MT. (see MT5) decade vol 14 1.18 15 1.18 16 1.18 17 1.23 18 1.23 etc.
◆	2. Brush 400 ha to maintain backlog plantations.	2. All backlog NSR has been treated. Brushing is needed on some plantations to ensure they attain free-growing. **A program of 100 ha over the next 3 years followed by 50 ha/yr for 2 years is needed**.	3. Already included in base case scenarios.	N/A

Potential Harvest Forecast

Figure 7 graphs the potential harvest level that may be attained through implementation of the silvicultural strategies in the preceding tables. This forecast is highly speculative and requires confirmation through computer-based modeling and analysis. It also includes silvicultural activities that are not within the traditional scope of incremental silviculture. Modeling may indicate more precise timing, targeting and program levels associated with incremental silviculture activities than could be developed in this interim strategy.

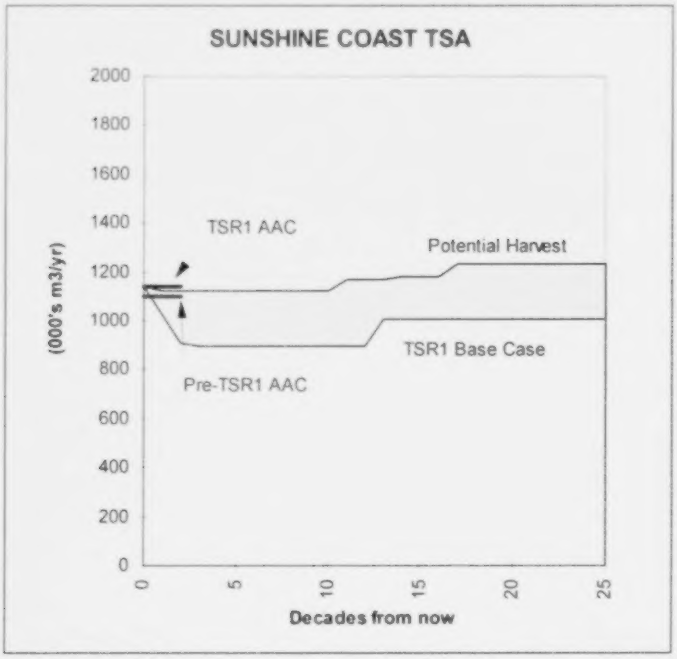

Figure 7. Potential harvest forecast, Sunshine Coast TSA

Opportunities to Improve Timber Quality

The effects of incremental silviculture on the future quality of the timber resource were not analyzed in the timber supply review. Information in this section was gathered during the district working session.

Product Objectives

The following are product objectives at the log level for the Sunshine Coast TSA.

Quality Class	Species	Characteristics
Premium Log:	Douglas-fir, clear, pruned	45+ cm min DBH, pruned, min 5.2 m log.
	Hemlock, Douglas-fir, large timber	55+ cm min DBH, unpruned.
	Cedar pole	30+ cm min dia over 15 m, few knots.
Sawlog:	Minimum average stand DBH of 30 cm and min. stand vol. of 350 m3/ha.	

Available Information Regarding Potential Treatments and Treatable Area

Treatment	Comment/ Potential Treatment Regimes	Treatable Area
◆ Incremental Silviculture		
◆ Spacing		
◆ Commercial Thinning		
◆ Pruning		
◆ Space/ Prune		
◆ Space/ Prune/Fert		
◆ Other		

Potential Strategies by Response Time Frame

The following strategies have potential to increase timber quality. These were identified in the district working session. The response time frame is the period in which the anticipated result is expected, not the period in which actions must necessarily commence.

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	Premium Log Forecast
◆ Short Term (1 - 20 yrs)	None	Short term harvests will come from existing older stands which are not treatable to improve quality.	Quality profile of existing old growth will prevail. Assume this is equal to a recent coast-wide estimate of 15%.	15%?
◆ Mid Term (21 - 130 yrs)	Q1. First lift prune 400 ha/yr to 3.1 m.	1. Target stands are Dfc, low elevation, good and medium site. All stems are pruned. Any hemlock in a Fdc stand is also pruned, but hemlock stands are not normally pruned.	1. 400 ha is approx 20% of annual area harvested. Assume 3.1 m log is 9% of tree vol. (.20 X .09) ⇒ 2%.	2% clear log content.
	Q2. Second lift prune 250 ha/yr to 5.5 - 6 m.	2. Generally, all 1^{st} lift stands are given a 2^{nd} lift. At present, there are more candidate stands coming on line for first lift than there are already treated stands available for 2^{nd} lift. Hence, within the planning horizon of this strategy, more 1^{st} lift than 2^{nd} lift pruning is planned.	2. 250 ha is approx 13% of annual area harvested. Assume next 2.5 to 3 m of tree (2^{nd} lift distance) is 7% of tree vol. (.13 X ..07) ⇒ 1%.	1% clear log content.

<table>
<tr><th>Response Time Frame</th><th>Potential Strategy/Action</th><th>Discussion / Current Status</th><th>Anticipated Result</th><th>Premium Log Forecast</th></tr>
<tr><td></td><td>Q3. Space 1200 ha/yr to obtain large dimension timber and prepare stands for fertilization and pruning.</td><td>3.
Avg. annual area harvested = 2 000 ha
% ≥ 60 cm is from TIPSY stock table, rounded to nearest 5%.
Bottom 5m log = 20% of tree vol.
% large = (Area/2000) X (%≥ 60 cm) X (20% of tree vol.)
<table>
<tr><th>Species</th><th>SI</th><th>Cul Age</th><th>Space frm/to:</th><th>Area</th><th>% ≥ 60cm</th><th>% large</th></tr>
<tr><td>Fdc</td><td>35</td><td>80</td><td>1200/700</td><td>700</td><td>45</td><td>3</td></tr>
<tr><td></td><td></td><td></td><td>unspaced</td><td>0</td><td></td><td>0</td></tr>
<tr><td>Hw</td><td>27.5</td><td>100</td><td>4000/700</td><td>400</td><td>40</td><td>2</td></tr>
<tr><td></td><td></td><td></td><td>unspaced</td><td>650</td><td>15</td><td>1</td></tr>
<tr><td>C</td><td></td><td colspan="2">pole (see below)</td><td>250</td><td></td><td>_</td></tr>
<tr><td>Total</td><td></td><td></td><td></td><td>2000</td><td></td><td>6</td></tr>
</table></td><td>3. 6% premium log content, 5% from spaced stands and 1% from unspaced stands.</td><td>6% premium logs, some of which will also be clear.</td></tr>
<tr><td></td><td></td><td>Calculation for cedar pole premium log component of future harvests.
TIPSY indicates that for Cw with an initial density of 4 000 st/ha, SI 30, at age 100, 50% of stems will be ≥40 cm dbh. However, not all of these stems will be pole quality. Assume ½ of this or 25%.</td><td>No estimate available. If 1/3 of Cw leading species (8% of THLB) is higher density Cw and 25% of stand is poles ⇒ 1% of future harvests will be poles.</td><td>1% pole log content.</td></tr>
<tr><td>♦ Long Term (131 + yrs)</td><td>As above.</td><td>As above.</td><td>As above.</td><td>10%</td></tr>
</table>

Timber Quality Forecast

The foregoing analysis indicates the premium log content of harvests in the mid and long term will be lower than today's levels (10% forecast vs. current estimate of 15%).

Postponing harvest to ages that are past culmination age would increase the large dimension component of premium logs. However, this is unlikely, given the need to maintain sawlog volumes.

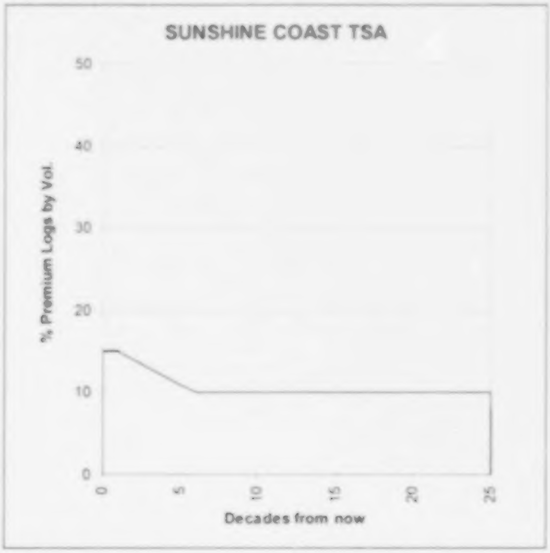

Figure 8. Potential Quality Forecast, Sunshine Coast TSA

This quality forecast is for a combination of clear logs, large-dimension premium logs, and cedar poles. Large logs are projected to be 7% of future harvests and clear logs 3%. Some large logs will also be clear logs. Cedar poles are estimated to be 1% of future harvest volume.

Incremental Silviculture Strategy

This section synthesizes the preceding background information and analysis into an incremental silviculture strategy for the TSA.

General Strategy

The Sunshine Coast TSA has substantial opportunity to sustainably increase future timber supply. A general strategy of increasing existing and regenerated stand volumes as well as overcoming forest cover constraints in the visual quality zones will accomplish this. Central to increasing future timber supply is the use of 2nd generation or better improved seedlings. A stable timber supply also affords this TSA the somewhat unique opportunity to focus on strategies to generate high quality premium logs in the future, particularly large dimension, clear timber. Ensuring future timber quality is particularly important, given the indicated trend toward lower premium log harvest levels across the BC coast. Spacing is needed to increase piece size, reduce future harvesting costs, and prepare stands for pruning and fertilization. Pruning is needed to ensure premium clear logs exist in the future.

Working Targets

The preceding analysis indicates the following working targets are attainable. Figure 9 illustrates these.

WT 1 (Quantity):	Manage mid term timber supply to yield harvest levels near the current level of 1.14 million m3/yr, rising in a series of steps beginning in approximately 100 years from now to a long term harvest level of 1.23 million m3/yr.
WT 2 (Quality):	Manage regenerated stands to yield at least 10% premium logs by volume, with the majority of the remainder being of sawlog quality.

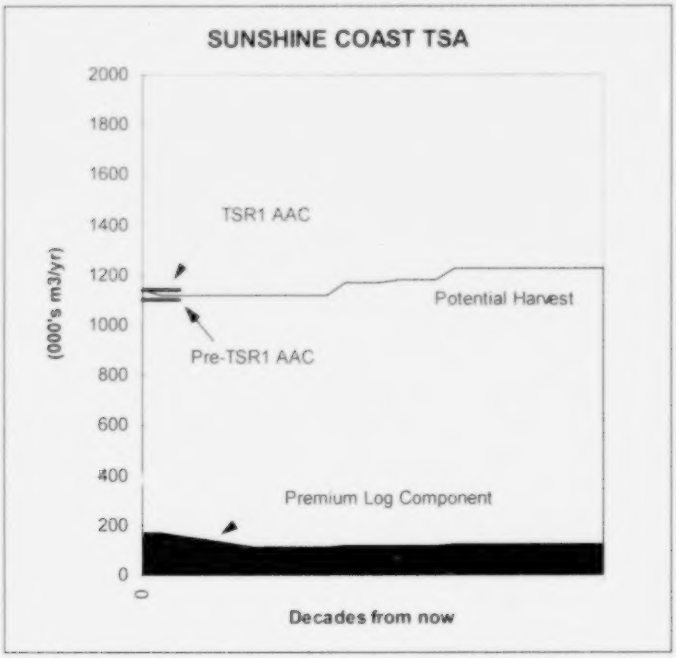

Figure 9. Combined Potential Quantity and Quality Harvest Forecasts, Sunshine Coast TSA

Log Product Objectives

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Silviculture Strategies

The following strategies have identified potential to increase the quantity and quality of the timber supply of the Sunshine Coast TSA. Strategy numbers correspond with those recorded earlier.

Strategies to Increase the *Quantity* of Future Timber Supply

(Some of the following are not within the traditional scope of incremental silviculture but are included here for completeness. Some practices are pre free-growing and are not likely to be undertaken by licensees without funding assistance if free growing obligations can be achieved without them.)

No.	Strategy
Short Term	
ST1	Achieve green-up 5 years earlier by reducing regeneration delay 2 years; planting large, second generation, improved stock; and fertilizing at the time of planting.
ST3	Increase partial harvesting / commercial thinning regimes in VQO zones.
Mid Term	
MT2	Continue ST 3.
MT3	Repeat fertilize approximately 4 000 ha of existing stands scheduled for harvest 20 to 80 years from now (300 ha/yr in spaced stands & 100 ha/yr in commercially thinned stands) to raise their volumes.
MT4	Increase regenerated stand volumes 15% and achieve green-up 5 years earlier by: (a) reduce regeneration delay by 2 years; (b) using 2nd generation 'A' class seed for Douglas-fir, western hemlock, and cedar (requires programs for production of seed for these species); (c) using large planting stock; (d) managing stocking on approximately ½ of regenerated areas to reduce voids by 5%; (e) fertilizing up to 20% of regenerated stands (requires determination of which hemlock stands are responsive); and (f) managing root rot in Douglas-fir stands to reduce losses by 50%.
MT5	Reduce shortfall below LTHL by using CT/fertilizing regimes commencing in about 80 years to bring forward volumes from the long term.
Long Term	

LT1	Continue MT 4.
LT2	Brush 400 ha to maintain backlog plantations.

Strategies to Increase the *Quality* of Future Timber Supply

No.	Strategy
Q1	1st lift prune 400ha/yr to create knot-free timber in the lowest 3.0 m log.
Q2	2nd lift prune 250 ha/yr to create knot-free timber in the lowest 5.1 m log.
Q3	Space 1200 ha/yr to obtain large dimension timber and prepare stands for fertilization and pruning.

Strategies to Increase the *Quantity* or *Quality* of Future Habitat Supply

The following strategy has identified potential to increase the quality or quantity of the habitat supply of the Sunshine Coast TSA.

No.	Strategy
	No strategies proposed at this time.

Summary of Information and Research Needs

During the assessment process, the following needs for further information and research became apparent. The outcome of these have implications for an incremental silviculture strategy. Bracketed numbers refer to the strategy numbers under which the need is identified (see tables in "Potential Strategies by Response Time Frame," page 11.

1. Further study of root rot management techniques and options are needed. (ST3)
2. Old growth site index estimation studies and the inventory audit require completion. It is anticipated that site indexes and existing stand volumes may be underestimated. (MT1)
3. OAF 1 factor of 15% requires confirmation. Survey techniques are available. Requires statistical validity at the management unit level if to be used for AAC determination. (MT4)
4. Hemlock response to fertilization is variable. Were the causes for this determined there may be considerable potential for hemlock fertilization to improve the harvest forecast. (MT4)

Silviculture Regimes and Investment Priorities

The following table indicates incremental silviculture regimes which are suitable to attaining the above working targets and strategies.

Regime Table, Sunshine Coast TSA, July 1998

Regimes	Strategy	Opportunity Area (Ha/Yr)	Timber Supply Effects Short	Medium	Long	Quality	Direct Silv. Jobs Days/ha	Direct Cost $/ha	Habitat	Rank
1 **Backlog Brushing**	LT2	100 (3 yrs) 50 (2 yrs)	0	A+	A+	0	2	1000		1,1,1
Spacing @15-20 yrs										
M-G FHC low elevation ---> 600-700 sph	Q3	600	0	+	-	++	5	1200		2,2,2
M-G FHC mid elevation ---> 600-700 sph	Q3	400	0	+	-	++	5	1200		2,2,2
M-G HCB mid-upper elevation ---> 600-700 sph	Q3	200	0	+	-	++	5	1200		2,2,2
Pruning										
FH low-mid elevation (previously spaced)										
all stems, 1st lift to 3.1 m	Q1	400	0	0	0	+++	6	1200		3,5,4
all stems, 2nd lift to 5.5-6.0 m	Q2	250	0	0	0	+++	8	2000		
Fertilization										
M-G FHC spaced	MT3	300	0	++	++	0	0.1	350		4,3,3
CT'ed stands	MT3	100	+							
Health - bridge tree removal and white pine operational trials	MT4, LT1	400	0	+	+		1	800		4,4,5

Notes

A-type timber supply effects are incorporated in the TSR base case

B-type timber supply effects are incremental to the TSR base case

Rank: 1st column - MOF; others - Licensees

Incremental Silviculture Program

The following annualized program will contribute to achieving the above goals and strategies.

Program Table - Ha, Sunshine Coast TSA, July 1998

Year	Surveys*	Backlog Brushing	Space	Prune 1st lift	Prune 2nd lift	Fertilize	Health
1	2,000	100	1,200	400	250	400	400
2	2,000	100	1,200	400	250	400	400
3	2,000	100	1,200	400	250	400	400
4	2,000	50	1,200	400	250	400	425
5	2,000	50	1,200	400	250	400	450
Subtot Yr 1 - 5	10,000	400	6,000	2,000	1,250	2,000	2,075
6 - 10	10,000	-	6,000	2,000	1,250	2,000	2,075
Total Yr 1 - 10	20,000	400	12,000	4,000	2,500	4,000	4,150

* Includes prescription and layout

Unit cost ($/ha)	50	1,000	1,200	1,200	2000	350	800

Program Table - $ 000s, Sunshine Coast TSA, July 1998

Year	Surveys	Backlog Brushing	Space	Prune 1st lift	Prune 2nd lift	Fertilize	Health	Total
1	100	100	1,440	480	500	140	320	3,080
2	100	100	1,440	480	500	140	320	3,080
3	100	100	1,440	480	500	140	320	3,080
4	100	50	1,440	480	500	140	340	3,050
5	100	50	1,440	480	500	140	360	3,070
Subtot Yr 1 - 5	500	400	7,200	2,400	2,500	700	1,660	15,360
6 - 10	500	-	7,200	2,400	2,500	700	1,660	14,960
Total Yr 1 - 10	1,000	400	14,400	4,800	5,000	1,400	3,320	30,320

Job Outcomes

The following are the anticipated job outcomes associated with the preceding program, assuming the program is maintained into the future as necessary to achieve the working targets.

Program Job Outcomes, Sunshine Coast TSA, July 1998

Short term *employment associated with undertaking the silviculture activity, in person years*

Year	Surveys	Backlog Brushing	Space	Prune 1st lift	Prune 2nd lift	Fertilize	Health	Total
1	1.1	1.1	33.3	13.3	11.1	0.2	2.2	62
2	1.1	1.1	33.3	13.3	11.1	0.2	2.2	62
3	1.1	1.1	33.3	13.3	11.1	0.2	2.2	62
4	1.1	0.6	33.3	13.3	11.1	0.2	2.4	62
5	1.1	0.6	33.3	13.3	11.1	0.2	2.5	62
Subtot Yr 1 - 5	6	4.4	166.7	66.7	55.6	1.1	11.5	312
6 - 10	6	-	166.7	66.7	55.6	1.1	11.5	307
Total Yr 1 - 10	11	4.4	333.3	133.3	111.1	2.2	23.1	619

Note: Assumes 180 days of silviculture work = 1 job (Source: Jobs and Timber Accord)

Long term *employment associated with improved quality and quantity of the timber resource*[1]

Decade	Harvest Increment ('000 m3)	Incremental Jobs			
		per year by decade		Total by decade	
		TSA[2]	Prov[3]	TSA[2]	Prov[3]
1	94	53.6	112.8	536	1,128
2	211	120	253.4	1,204	2,534
3	226	129	271.8	1,291	2,718
4	226	129	271.8	1,291	2,718
5	226	129	271.8	1,291	2,718
6	226	129	271.8	1,291	2,718
7	226	129	271.8	1,291	2,718
8	226	129	271.8	1,291	2,718
9	226	129	271.8	1,291	2,718
10	226	129	271.8	1,291	2,718
11	276	158	331.8	1,576	3,318
12	276	158	331.8	1,576	3,318
13	164	94	197.1	936	1,971
14	174	99	209.1	993	2,091
15	174	99	209.1	993	2,091
16	174	99	209.1	993	2,091
17	224	128	269.1	1,278	2,691
18	224	128	269.1	1,278	2,691
19	224	128	269.1	1,278	2,691
20	224	128	269.1	1,278	2,691
21	224	128	269.1	1,278	2,691
22	224	128	269.1	1,278	2,691
23	224	128	269.1	1,278	2,691
24	224	128	269.1	1,278	2,691
25	224	128	269.1	1,278	2,691
Total				30,641	64,507

Notes:

1. Assumes continuation of on the incremental silvicIture program beyond the first 10 years, in accordance with the strategy. The total harvest increment is associated with all the silvicultural practices documented in the "Opportunities" section and is only partly attributable to spacing and fertilization practices. Some of the increase may be associated with pre-free growing silviculture that was not current practice at the time of TSR1.

2. Assumes 0.57 TSA level harvesting and processing jobs (PYs) per 1000 cubic metre (Source: Sunshine Coast SEA)

3. Assumes 1.2 Provincial level harvesting and processing jobs (PYs) per 1000 cubic metre (Source: Sunshine Coast SEA)

References

B.C. Ministry of Forests. 1991. *Regional Stand Tending Guidelines*. Vancouver Circular Letter VR91-558. Vancouver Forest Region, Nanaimo, British Columbia. 24p + Appendices.

________. 1995a. *Sunshine Coast TSA: Timber Supply Analysis*. Timber Supply Branch, Victoria, British Columbia. 59p.

________. 1995b. *Sunshine Coast Timber Supply Area: Timber Supply Review Discussion Paper*. Timber Supply Branch, Victoria, British Columbia. 12p.

________. 1996. *Forest Management Issues identified Through the AAC Determination Process*. Timber Supply Branch, Victoria, British Columbia. 331p.

________. 1997a. *Summary of Timber Supply Review Results 1992 to 1996*. Timber Supply Branch, Victoria, British Columbia. 20p.

________. 1997b. *Assumptions Included in Timber Supply Analyses: Timber Supply Areas & Tree Farm Licences*. Forest Practices Branch, Victoria, British Columbia. 115p.

________. 1998a. *Guidance towards Participation in the Forest Renewal BC Planning Process and the Development of Resource Management Plans*. Victoria, British Columbia. 20p.

________. 1998b. *Vancouver Region Incremental Silviculture Objectives*. Handout. Vancouver Forest Region, Nanaimo, British Columbia. 1p.

McWilliams, Eleanor and Guillaume Therien, 1997. *Fertilization and Thinning Effects on a Douglas-fir Ecosystem at Shawnigan Lake: 24-year Growth Response*. FRDA Report 269, revised edition. Joint publication of the Canadian Forest Service and the British Columbia Ministry of Forests, Victoria, British Columbia. 44p.

Pedersen, L. 1996. *Sunshine Coast Timber Supply Area Rationale for Allowable Annual Cut (AAC) Determination*. Victoria, British Columbia. 47p + Attachments.

Timberline Forest Inventory Consultants Ltd. 1997. *Forest Level Benefits to Commercial Thinning and Fertilization*. Prepared for the B.C. Ministry of Forests, Forest Practices Branch, Victoria, British Columbia. 64p.

September 30, 1999

INCREMENTAL SILVICULTURE STRATEGY

A COMPONENT OF THE CAMPBELL RIVER FOREST DISTRICT

2000
RESOURCE MANAGEMENT PLAN

(for program update refer to 2000 activity templates)

Strathcona
Timber Supply Area

Incremental Silviculture Strategy (Interim)

-- Version 1.0 --

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British Columbia

Ministry of Forests

Funded By

Forest Renewal BC

August 31, 1998

STRATEGY AT A GLANCE

General Strategy

The focus of the silviculture strategy in the Strathcona TSA is to aid the redistribution of harvest between supply blocks, increase the supply of sawlogs during the mid term period, diversify the age class structure, assist in managing for aesthetic and wildlife values, and increase the future supply of premium logs.

Working Targets

Quantity: Manage mid-term timber supplies to yield a harvest of approximately 1.10 million m3/yr and long term supplies to yield 1.25 million m3/yr.

Quality: Manage regenerated stands to yield at least 6% premium logs by volume, with the majority of the remainder being of sawlog quality.

Product Objectives

The following are product objectives at the log level for the Strathcona TSA.

Quality Class	Species	Characteristics
Premium Log:	Douglas-fir, clear, pruned	45+ cm min DBH, pruned, min 5 m log.
	Douglas-fir, large timber	55+ cm min DBH, unpruned.
	Douglas-fir, clear, unpruned	long rotation.
	Hemlock, large timber	55+ cm min DBH, unpruned.
	Hemlock, clear, unpruned	long rotation.
	Cedar, large timber	55+ cm min DBH, unpruned.
	Cedar, clear, unpruned	2 rotations in stand.
Sawlog:	Minimum average stand DBH of 45 cm and min. stand vol. of 350 m3/ha.	

Major Silvicultural Strategies

Quantity

(Some of the following are not within the traditional scope of incremental silviculture but are included here for completeness.)

1. In the Sayward and Kyuquot SB's, achieve a 3-5 year earlier green-up of regenerated stands through a variety of silvicultural practices.
2. In the Sayward, increase existing stand volumes 10% and diversify the age class structure by spacing 300 ha/yr, fertilizing1 500 ha/yr and commercial thinning 400 ha/yr.
3. In the Kyuquot and Loughborough SB's, move age class 1 & 2 stands ahead for earlier harvest and diversify the age class structure by spacing 1 100 ha/yr and fertilizing 200 ha/yr.
4. Increase regenerated stand volumes 20% (tree improvement is critical to success).

Quality

1. Prune 250 ha/yr to increase the future supply of premium logs by 2%.
2. Manage selected stands for large dimension timbers.
3. Manage for clear timber through long rotations of selected stands.

Habitat

1. In the Sayward, create old forest characteristics as early as possible.
2. Space 50 ha/yr to [what density?] for [what purpose?].

Incremental Silviculture Program

(ha)

Year	Surveys	Backlog Brushing	Space	Prune	Fertilize	Total
1	7,000	100	1,550	250	1,500	3,400
2	7,000	100	1,550	250	1,500	3,400
3	7,000	100	1,550	250	1,500	3,400
4	7,000	-	1,550	250	1,500	3,300
5	7,000	-	1,550	250	1,500	3,300
Subtot Yr 1 - 5	35,000	300	7,750	1,250	7,500	51,800
6 - 10	35,000	-	7,750	1,250	7,500	51,500
Total Yr 1 - 10	70,000	300	15,500	2,500	15,000	103,300

Introduction

About the Interim Strategy

The terms of a service agreement between Forest Renewal BC (FRBC) and the BC Ministry of Forests (MoF) require the MoF to develop, and FRBC to fund, what is essentially an incremental silviculture strategy. This document is in fulfillment of this contractual requirement.

Incremental silviculture is part of a suite of strategies which together may influence the future quality and quantity of habitat and timber supply. This strategy document broadly analyzes the full potential range of silviculture activities in order to create a context for an incremental silviculture strategy.

An incremental silviculture strategy should not be confused with the allowable annual cut (AAC) determination process. AAC's are based on actual practice and current information at the time of the determination. This strategy, on the other hand, is about creating a future state of our forests. The degree to which the strategy proves appropriate and is achieved may influence future, but not necessarily present, AAC determinations.

This strategy is founded on readily available information and the knowledge of forestry professionals. It is intended as an interim strategy until a more in-depth analysis-based review is completed.

Methodology

This strategy was prepared through the following process:

1. Prior to the district working session, L. P. Atherton & Associates prepared a preliminary draft of this document, summarizing all available information relevant to a strategy and identifying opportunities to improve the future quantity and quality of timber supply.
2. A district working session was held July 27 & 28, 1998 in Campbell River, attended by representatives of the MoF and forest licensees of the Strathcona TSA. Larry Atherton of L. P. Atherton & Associates and Doug Williams of Cortex Consultants Inc. led the session. Participants reviewed the potential opportunities identified in the draft document along with others that arose. The outcome of the session was a regime table, complete with priorities.
3. The consultants incorporated the results of the working session into the draft document and added forecasts of future harvest quantity and quality and of job outcomes.
4. After ministry review, the consultants submitted a completed strategy document to the MoF in electronic format as version 1.0. (The ministry will assign higher version numbers (e.g., 1.1, 1.2, etc.) as the strategy evolves and changes are made.)

Acknowledgments

The participation of representatives of the following organizations at the district working session is gratefully acknowledged.

Ministry of Forests:

- Campbell River Forest District;
- Vancouver Forest Region.

Forest licensees of the Strathcona TSA:

- Interfor
- Canfor
- MacMillan Bloedel
- Western Forest Products

The project was managed by Mr. Larry Sigurdson of the Ministry of Forests, Vancouver Forest Region. Funding was provided by Forest Renewal BC.

Basic Data

Land Area

Description	Area (ha)	Area %
Total Area of TSA	659 100	100
Total Productive Crown Forest	377 000	57
Net Timber Harv. Land Base	236 300	36

Source: TS analysis report - rounded to nearest 100 ha.

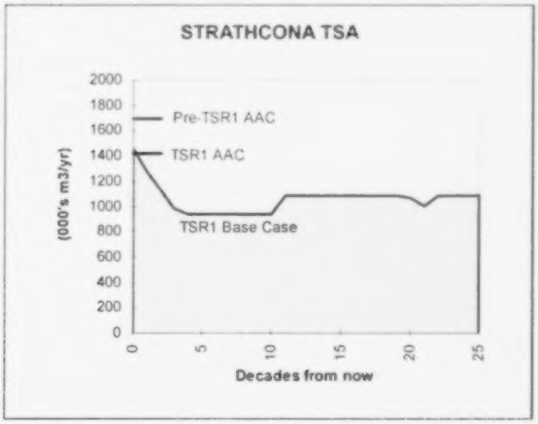
AAC

AAC Type	Pre-TSR	TSR1*	Change (%)
Conventional	1 677 745	1 404 000	-16.3
Deciduous	16 000	16 000	0.0
Insect/Disease	-	-	-
Marginal	-	-	-
Total	1 693 745	1 420 000	-16.2

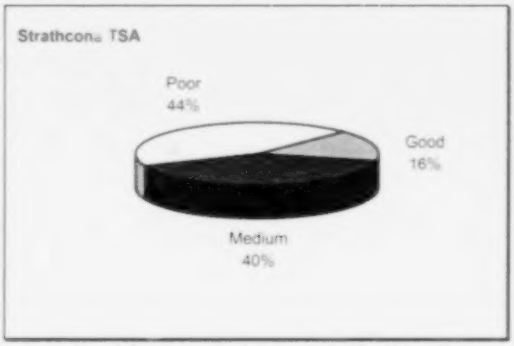
Woodlot AAC	

*effective Jan 1/96

Harvest Forecast

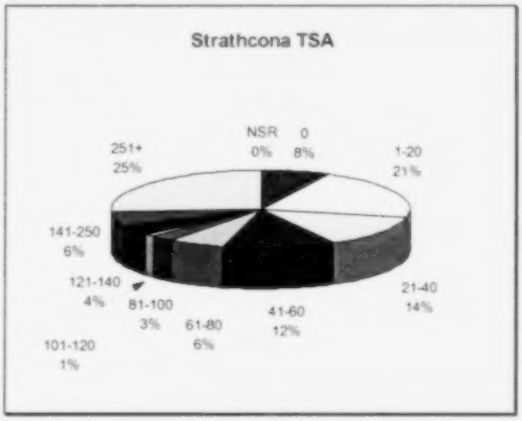


Site Class



Data scaled from chart in TS analysis report.

Age Class



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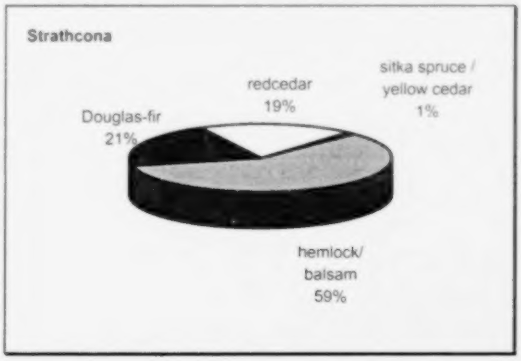
Tree Species



Issues

Individual Issue Analysis

The following information is primarily from documentation produced under the first timber supply review, or TSR1. Sources are noted, with full references given on page 32. Only information which is relevant to an incremental silviculture strategy is recorded. Key statements are bolded.

Abbreviations: AAC - allowable annual cut; THLB - timber harvesting land base; IHL - initial harvest level; LTHL - long term harvest level; CF - chief forester; TSR - timber supply review.

Species abbreviations: Fd - Douglas-fir; Fdc - coastal Douglas-fir; Hw - western hemlock; Cw - western redcedar; B or Ba - balsam fir.

Site class abbreviations: G - good; M - medium; P - poor.

♦ Harvest Forecast	"Current AAC" assumed to be 1 665 745 m3, after a 28 000 m3 deduction for inclusion of recent land base additions (total pre TSR AAC: 1 693 745 m3). **Initial harvest level is 1 456 621 m3, 13% below current AAC**, declining thereafter at a rate of 12%/ decade to a mid term level of 938 250 m3 reached essentially in 30 years from now (**44% below current AAC, 35% below initial harvest level**), rising to a long term harvest level of 1 088 250 (**35% below current AAC, 25% below initial harvest level**) 110 years from now. (rationale, 10; analysis, 12) The original abundance of mature forests which historically allowed harvest levels well above the long-term harvest level no longer exists. Harvest levels must decline to avoid serious timber supply shortfalls in the future. (rationale, 27)
♦ Age Class	Approximately 61% of THLB in stands less than 81 years old, more than half of which is in the Sayward and Loughborough supply blocks. These 2 blocks now have a large proportion of relatively young stands due to the historic concentration of harvesting in them. 25% of the THLB is in stands aged 251+, largely in the Kyuquot supply block into which harvesting operations have more recently shifted. (analysis, 13; rationale, 17)
♦ Harvest Distribution	**The challenge is to more evenly distribute the harvest amongst the 3 supply blocks.** Harvesting must be reduced immediately in the Kyuquot SB from the recent level of 1 100 000 m3/yr to 800 000 m3/yr (discussion paper, 9). Approx. 45 000 m3/yr is CT'd in the Sayward SB (rationale, 18), but this appears to be near the limit (discussion paper, 10).
♦ Forest Cover	*Non-VQ Zones*: 63% of THLB. Base case requirement of at most 25% of THLB permitted to be < 3 m tall (4 pass system). Sensitivity test of ± 1 pass. (analysis, 24) Relaxation: (3 pass assumed - actual relaxation amount not stated in analysis report.) Insensitive. This requirement was not a limiting factor in the base case. Increase: (5 pass) **Highly sensitive in the short term.** Initial harvest level 25% below base case. Same as base case starting in 3rd decade but because reduced harvest in the short term causes a larger inventory to be maintained until later decades, reaches the steady LTHL 2 decades earlier than base case. *Visual Quality Zones*: 37% of THLB. Base case requirement of at most 5% (retention VQO), 10% (partial retention VQO) and 20% (modification VQO) to be < 5 m tall. Sensitivity test of ± 5%. (analysis, 25)

	Relaxation: (+5%) **Mid term shortfall eliminated** (19% above base case). Moderately sensitive short and long term, with both about 3% higher than base case. Increase: (-5%) **Highly sensitive** - decrease of 6% in short and mid term, **14% below long term base case**. *Green-up*: Green up ages 12 - 14 yrs for 3 m (non-VQ) and 18 - 21 yrs for 5 m (VQ). Sensitivity test of ± 5 years. (analysis, 23) Relaxation: (- 5 yrs) Moderately sensitive short and mid term with approximate increases in timber supply of 4 to 6% respectively. Long term insensitive. Increase: (+ 5 yrs) **Highly sensitive** - initial harvest level 33% below base case. Rises to base case in decade 12. LTHL 3% below base case.
◆ Backlog NSR	0 ha of backlog NSR.
◆ Quality	• 17 738 ha of non-merchantable forest types deducted from THLB (deciduous, low quality pine, age class 8+ stands which are < ht class 3, age class 8+ stands which are ht class 3 unless cedar or cypress leading or have a secondary component of at least 20% cypress). Partition of 16 000 m3 for deciduous species. • 711 ha of non-commercial cover deducted from THLB.
◆ Older Forests	Base case does not include a requirement for old growth or biodiversity as there were no specific provisions applied operationally in the TSA at the time of analysis. Relaxation: N/A Increase: N/A. CF recognizes that additional requirements for biodiversity constitute a small downward pressure on the initial harvest level projected in the base case (rationale, 24).
◆ Min. Harvest Ages	Base case uses ages within 5% of culmination ages as min. harvest ages (50 - 110 years). Sensitivity analyses of ± 10 yrs. Short term insensitive to either increase or decrease. Slight sensitivity (± 2%) in mid and long term. (analysis, 22)
◆ Silvicultural Systems	Most of the THLB is currently managed under a clearcut harvesting system. Some harvesting is clearcut with reserves. **CF notes potential to increase harvests in visually sensitive areas through visual quality rehabilitation and by using alternative silvicultural systems and careful design of cutblocks** (rationale, 22). 45 000 m3/yr currently harvested through CT. [No mention of Vancouver region directive to have 10% of harvesting done via alternate systems.]
◆ Regeneration	Base case assumes regen delays of 2 (all Fdc, cottonwood) to 5 years (cedar, hem/bal, Sitka spruce). (analysis, 53) Considered an accurate reflection of current practice although some areas stocked before 5 years (rationale, 18). All cedar and spruce stands are regenerated to hemlock of the same site class. All regeneration is modeled as a pure species. All Douglas-fir are assumed planted to 900 stems/ha. Half of hemlock are assumed to be planted at 900 stems/ha and half to regenerate naturally at 1800 stems/ha. (analysis, 53) Minor losses to Sitka spruce weevil of 325 m3/yr. (rationale, 18)
◆ Estimates of Timber Volumes	VDYP used for existing stand volumes except Douglas-fir 60 years old or less and hemlock 30 years old or less. TIPSY used for regenerated stand volumes and existing managed Douglas-fir and hemlock stands. (analysis, 54) *Existing stand volumes*: Sensitivity test for ± 10% in volume. Long term insensitive. (analysis, 26)

Increase: (+10%) When goal of reducing mid term shortfall below LTHL is given priority, short term insensitive and **mid-term drop below LTHL almost eliminated** (+10%, visual estimate from charts). When this goal not given priority, short term harvests may increase and base case mid term drop below LTHL maintained.

Decrease: (-10%) **Highly sensitive**. Initial volumes reduced 7% below base case for 1st decade and approx 12% in 2nd decade. Mid term shortfall below LTHL increased by approx. 5% (visual estimate from chart).

Regenerated stand volumes: OAF1 - 15% OAF2 - 5%. (analysis, 54)

Sensitivity tests for ± 20% in volume. Short term insensitive to either. **Highly sensitive to both in long term**. (analysis, 27)

Increase: (+20%) **Mid term harvests raised about 7%** (visual estimate from chart). LTHL 21% higher than base case, rising from a lower mid term shortfall 110 years from now.

Decrease: (-20%) LTHL 22% lower than base case. Mid term harvest level lower than that of base case and from which the LTHL never recovers.

Summary of TSA-level Issues by Period

Short Term (1 - 20 years)

Past harvesting and fires have converted the two eastern supply blocks to younger forests, leaving older forests concentrated in the Kyuquot supply block on the western side of Vancouver Island. Given the general insensitivity to relaxation of forest cover constraints, it appears that there is simply not enough remaining mature forest to support recent harvest levels. The shortage and configuration of older stands makes the short term very sensitive to increases in forest cover constraints and to a decrease in existing stand volumes.

Mid Term (21 - 110 years)

The timber supply analysis does not discuss the cause of the mid term shortfall. Reducing the adjacency constraint by allowing 5% more to be below green up in the VQ zones eliminates the base case shortfall. The shortfall is also almost eliminated when existing stand volumes are increased 10%. Decreasing green-up ages 5 years results in a 6% increase to mid term harvests.

Long Term (111 + years)

The long term is highly sensitive to two factors. Decreasing by 5% the amount of areas in the VQ zones which may be below green-up (thereby increasing the constraint) drops LTHL 14% below the base case. This is because the 5% decrease eliminates all harvest in areas classified retention and doubles the constraint in partial retention areas.

As is the case in virtually all management units, the long term is sensitive to changes in regenerated stand volumes. A 1% increase or decrease in volume results in a corresponding approximate 1% increase or decrease to LTHL.

Future

Deferred harvesting (log-around) and future land base reductions through the Vancouver Island Land Use Plan have undetermined complications for future timber supply.

Older forest, biodiversity and Forest Practices Code requirements are likely to have significant future impacts on timber supply.

Incremental Silviculture History

Approximately 2 000 ha are harvested annually.

Treatment	TSR1 Status (1994)		Current Status (1998)
	Incorporated in Timber Supply Analysis	Not Incorporated in Timber Supply Analysis	Source: CRFD[1]
◆ Backlog	Backlog NSR is virtually non-existent.		There is < 100 ha of backlog in the Kyuquot supply block that is scheduled for treatment this year.
◆ Conversion	900 ha of deciduous converted to conifer forest. Time frame not specified but presumably 10 yrs.		
◆ Commercial Thin		45 000 m3/yr current program (rationale, 18). Appears to be at its limit (paper, 10).	Same program level. Area of CT about 400 ha/yr.
◆ Space		1 000 ha/yr current program to improve stand quality and diameters (rationale, 19).	About 200 ha/yr.
◆ Prune			About 250 ha/yr, mostly 1st lift.
◆ Fertilize		1 000 ha/yr since about 1980. Increases yields approx 14 000 m3/yr. Volume gains not included in base case. (rationale, 19)	Still about 1 000 ha/yr.
◆ Space/ Prune		Combinations not indicated.	Only spaced stands are pruned.
◆ Space /Fertilize		"	Only spaced stands are fertilized.
◆ Other		None indicated.	

Higher Level Goals and Objectives

This section documents higher level goals and objectives relevant to an incremental silviculture strategy for the TSA.

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[1] CRFD - Campbell River Forest District

Provincial Goals

Fundamentally, government's goals can be characterized as:

- sustainable use;
- community stability; and
- a strong forest sector. (MoF, 1998a)

Provincial Objectives

Until provincial targets for timber quantity and quality are established, management unit strategies are to consider the following interim provincial strategic objectives (MoF, 1998a). Incremental silviculture strategies must also be in keeping with higher level plans under the Forest Practices Code.

Objective 1:	Maintain current harvest levels as long as possible without creating disruptive shortfalls in future timber supply.
Objective 2:	Create a long term timber supply capable of supporting a steady long term provincial harvest level similar to current levels.
Objective 3:	Minimize the interim shortfall in provincial harvest anticipated before a steady long term timber supply is achieved.
Objective 4:	Create a long term timber supply which will enable the timber quality profile of future harvests to be the same or better than the current profile.

It is recognized that not every management unit has the same capability to contribute to these interim objectives. Further, it is recognized that these objectives may not be attainable at current funding levels. Their purpose is to provide general guidance to the application of available funds.

Regional Objectives

The objectives of the regional incremental silviculture strategy are to:

- Ensure a long term sustainable harvest which approximates the current harvest value and volume levels and that produces a diversified mix of products necessary to create and maintain sustainable forest employment.
- Balance treatments that enhance growth and yield such as fertilizing, spacing and forest health activities with those that increase the value of the wood such as pruning.
- Utilize incremental silviculture treatments to contribute to sustainable management of non-timber values at the landscape level. (MoF, 1998b)

Opportunities to Increase Timber Supply

Opportunities Indicated Through TSR Sensitivity Analyses

TSA modelling in support of planning incremental silviculture has not yet been undertaken. In its absence, sensitivity analyses from the TSR1 analysis report are the best source of information as to the opportunities for incremental silviculture to increase future timber supply. The following are selected sensitivity analsysis charts from the TSR1 analysis report, to which opportunity information is added. Detailed analyses are required to confirm the indicated effects.

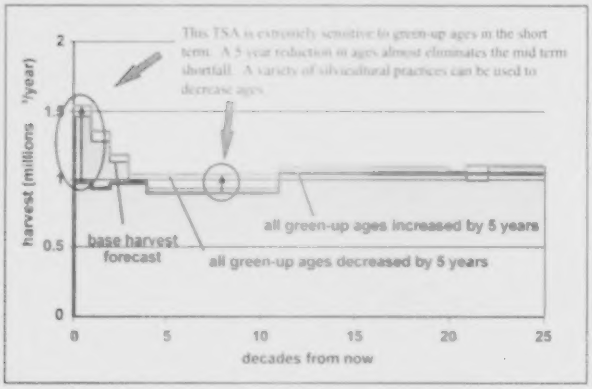

Figure 1. Changes in green-up ages, Strathcona TSA

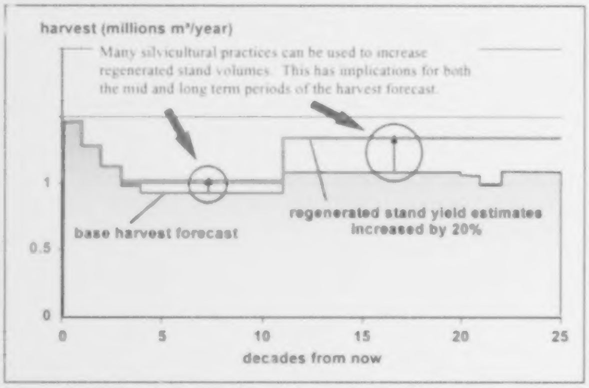

Figure 3. Changes in regenerated stand volumes, Strathcona TSA

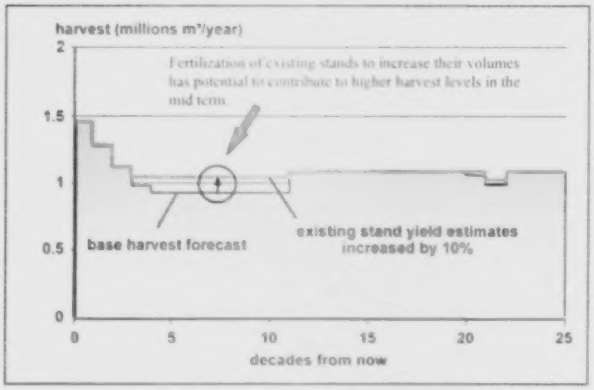

Figure 2. Changes in existing stand volumes, Strathcona TSA

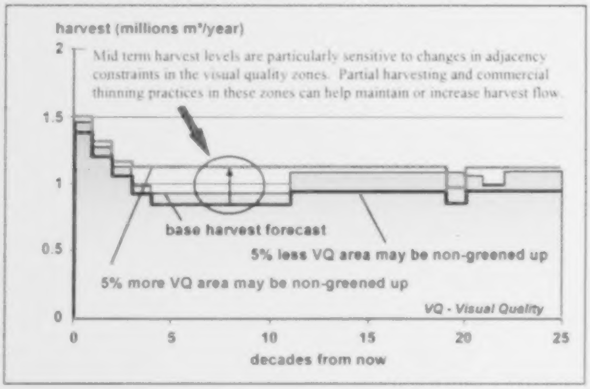

Figure 4. Changes in adjacency requirements in the visual quality zones, Strathcona TSA

Preliminary Identification of Silviculture Opportunities

Prior to the district working session, information in the previous sections was used to identify the following silvicultural strategies as having potential to increase future timber supply at the TSA level. Each of these was discussed in detail in the district working session (at the supply block level), the results of which are recorded in "Potential Strategies by Response Time Frame," page 11, along with additional strategies that arose during the meeting. Strategies that are ultimately adopted are noted in "Silviculture Strategies," page 26.

Short Term (1 - 20 yrs)

ST 1: complete site index and existing stand volume estimation studies.

ST 2: achieve green-up 3 years earlier through a variety of actions.

ST 3: overcome adjacency limitations by implementing partial harvesting/CT regimes in VQO zones.

ST 4: fertilize P or M site Douglas-fir stands scheduled for harvest in the 2nd decade.

Mid Term (21 - 110 yrs)

MT 1: continue partial harvesting/CT regimes as in ST 3.

MT 2: increase the volume of regenerated stands by 20% and achieve green-up 3 years earlier through a variety of actions.

MT 3: space post FG stands to set up for CT to bring forward harvest from long term into mid term (increasing regenerated stand volumes creates a mid term shortfall).

MT 4: conduct extensive fertilization trials in hemlock stands.

MT 5: address older forest/habitat/biodiversity constraints.

Long Term (111+ yrs)

LT 1: increase regenerated stand volumes 20%.

Supply Block Issues Identified in the District Working Session

MoF district staff and forest licensees of the Strathcona TSA , in a working session held July 27 & 28, 1998 in Campbell River, stressed the importance of supply block (SB) differences within the Strathcona TSA. Redistributing the harvest between the three supply blocks, the Kyuquot, Sayward and Loughborough, is a major issue. The immediate silvicultural challenge is to assist in moving a significant portion of the cut out of the Kyuquot SB into the other two SB's over the next few years, with a return of a portion of this back to the Kyuquot in 20 or so years at a lower and more balanced level.

Perhaps the biggest factor affecting the harvest distribution is the age class distribution of each of the supply blocks (accessibility and treatability being the others). The Kyuquot has the bulk of the older forests as well as a substantial area in age class 1 & 2 as a result of more recent harvesting activities. The other two supply blocks have second growth forests, some of which are nearing maturity. The Sayward SB has much of its timber in a relatively narrow age class band, mostly due to the Sayward fire having burned a large area in the _____'s and which regenerated to a single age class. These age class distributions, although different, create green-up limitations in both the Kyuquot and Sayward supply blocks.

The general consensus is that the Loughborough supply block is not a major player in managing the harvest distribution issue. Much of the supply block consists of higher elevation fragments on the coastal mainland, which are difficult to access and therefore expensive to treat. In the planning discussions, the Loughborough was largely considered a neutral factor.

To aid in developing a silviculture strategy which was relevant to the supply block management issue, the following rough supply block statistics were developed by participants at the working session.

	Supply Block			
	Sayward	**Kyuquot**	**Loughborough**	**TSA**
THLB (net operable	65 000	126 000	45 000	236 000

ha's)							
Current cut (m3)	300 000		1 000 000		100 000		1 400 000
Forecast cut (m3)	440 000		800 000		160 000		1 400 000
Distribution of IRM zone							63%
Distribution of VQO zone	7%		20%		10%		37%
species distribution (subscripts denote %)	Fd$_6$ Hw$_3$ Other$_1$		HB$_6$ Cw$_2$ Other$_2$		Hw$_5$ Fd$_2$ Other$_3$		
Site class distribution	35%G, 50%M, 15%P		25%G, 50%M, 25%P		25%G, 50%M, 25%P		
Potential area for fertilization treatment as % of total THLB	based on Fdc 60% of 65 000 ha = 39 000 ha		based on estimate of treatable Hw? Assume 50% H responds? ∴ 30% of 126 000 ha = 38 000 ha? [check]		based on Fdc 15% of 156 000 ha = 23 500 ha		
	%	Area	%*	Area	%	Area	
Age class 0-1-2	40	16 000	60	23 000	45	10 500	
Age class 3-4	40	16 000	2.5	1 000	25	5 900	
Age class 5-6	10	3 500	2.5	1 000	5	1 200	
Age class 7+	10	3 500	35	13 000	25	5 900	
Total	100	39 000	100	38 000	100	23 500	

*after ≅ 26 000 ha protected areas removed

Available Information Regarding Potential Treatments and Treatable Area

This section summarizes available information directly relevant to the potential treatments for the TSA.

Treatment	Comment	Treatable Area
◆ Spacing		
◆ Fertilization	Fertilization program of 1 000 ha/yr, started in 1980. Volume gain estimated as 14 000 m3/yr. Not reflected in base case forecast. CF recognizes this as optimism for medium to long term. (rationale, 19) Hemlock in the Kyuquot has had a variable response to fertilization. Must do screening trials before treatments.	Fdc 21% of THLB. HB 59 % of THLB.
◆ Commercial Thinning	CT program since 1978 with a current harvest of 45 000 m3/yr. In Sayward SB, goals are to improve age class distribution, enhance wildlife habitat and protect aesthetic values. An analysis by Timberline suggests CT can increase short term supplies. However, CF concludes CT produces little increase in total stand yields over the rotation. (rationale, 18)	18% of THLB aged 41 to 80 years and may be candidates.
◆ Rehabilitation	900 ha of deciduous stands included in analysis as converted to	

Treatment	Comment	Treatable Area
	mainly coniferous forest. Other areas may be converted through harvesting under the 16 000 m3 partitioned AAC.	
♦ Backlog NSR	None.	0

Potential Strategies by Response Time Frame

Explanatory notes with respect to the following tables.

Column Number	Note
1	The response time frame is the period in which the anticipated result is expected, not the period in which actions must necessarily commence.
2	Due to the need to manage at the supply block level, strategy numbers doe not correspond with the numbers recorded earlier in "Preliminary Identification of Silviculture Opportunities," page 8.
3	Information is largely from a meeting of ministry personnel and forest licensees held July 27 & 28, 1998 in Campbell River (the "district working session") combined with information presented earlier in this document.
4	Anticipated results are typically calculated using the timber supply response indicated by TSR1 sensitivity analyses.
5	The harvest forecast for the short term uses the TSR1 AAC as the starting level in the first decade, and the TSR1 AAC less 12% for the 2nd decade (as per the base case). Mid and long term harvest forecasts take the base case levels from TSR1 as the starting levels. The harvest forecast column was not thoroughly reviewed during the district meeting. *Results are largely conjecture and are meant to illustrate the potential of the strategies.*

In the AAC rationale, the chief forester identified a number of potential downward influences on timber supply. For the purposes of this strategy, however, a status quo is assumed with respect to these. Should any arise, the following strategies would serve to mitigate their effects rather than increase timber supply.

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	Harv Forecast (000 000s m3/yr)
- Short Term (1 - 20 yrs)	*The primary challenges in the short term are: (1) to increase harvest levels in the Sayward SB to accommodate the transfer of cut from the Kyuquot SB and (2) overcome green-up and adjacency limitations in the Kyuquot SB to maintain harvest levels there as much as possible.*			
Sayward - ST1	1. CT to overcome adjacency constraints.	1. 45 000 m3/yr is coming from CT. Probably at or near its upper limit.	1. Sensitivity test indicates a 3% gain in short term if 5% more area may be non-greened up. 45 000 m3/yr is coming from CT. Equals 45/1420 tot cut = 3% of total cut. ⇒ 3%	
Sayward - ST2	2. Achieve green-up 3 years earlier in IRM zone and 5 years earlier in VQ zones by:	2. Constraint in IRM zone is a max of 25% of THLB can be < 3 m tall. About 25% of Sayward is VQO (7% of entire THLB) where green-up ht is 5 m. TSR1 ages are 12 - 14 yrs for 3m and 18-21 yrs for 5 m.	2. Indications are the potential strategy is achievable. District working session participants estimate 3m ht is achieved in 10 yrs. Sayward has 20% of TSA VQO's (7/37). Sensitivity analysis indicates a 4% gain in short term with g-up ages decreased 5 yrs. (.2 X .04) ⇒ 1%	
	(a) Plant large genetically improved stock;	(a) All areas are planted. All Fdc, Hw and Cw stock is A class. Yield gains are 3-5% on 1st generation stock. [check - any 2nd gen in use?] Assume gains of 1 yr on 3m and 2 yr on 5m.		
	(b) reduce regeneration delay 1 yr by increasing proportion of area planted;	(b) All areas are planted with 1 yr regen delay avg. TSR 1 regen delays were 2 yrs for Fdc & 5 yrs for Hw. Assume avg gain 2 yrs.		
	(c) brush for growth enhancement;	(c) Brush competition is not normally a problem. [check]		
	(d) space and fertilize suitable regenerated stands; and/or	(d) Fertilizing at time of planting is an option, although is associated with a basic silviculture activity (planting). Assume gain 1 - 2 yrs. [check - how much tea bag fert at present?]		
	(e) plant 10% alder.*	(e) alder contributes to green-up as well as increases site productivity. Could gain 1 - 2 yrs. Not current practice.		
Sayward - ST 3	3. Increase existing stand volumes 10% by:	3. The benefits of past actions now accrue to the short term period of this planning horizon.	3. Assume program will be continued with age class 1 & 2 stands ∴approx 30 000 ha potentially	

<table>
<tr><th>Response Time Frame</th><th>Potential Strategy/Action</th><th>Discussion / Current Status</th><th>Anticipated Result</th><th>Harv Forecast (000 000s m3/yr)</th></tr>
<tr><td></td><td>(a) spacing to prepare for CT;
(b) multiple fertilization of suitable Fdc stands; and
(c) commercial thinning to capture mortality.</td><td>(a) approx. 12 000 ha of age class 3 Fdc is now spaced;
(b) above stands have been fertilized every 10 years since 1975, most 2X, some 3X - requires an annual program of 1 300 ha/yr [changed to match regime table - OK?]; and
(c) 2 500 ha have been CT'd.</td><td>under management (age classes 1 - 4), or 13% of THLB. Fertilization is anticipated to increase yields by 8%. CT can recover up to 10% mortality. Assume 6% recovery on ½ of areas = 3% gain, for a total gain of 11%. Overall TSA increase is .11 X .13 = 1%. Sensitivity test indicates a 10% increase in existing stand vol's gives a 10% incr. in harvest levels ∴⇒ 1% across entire TSA.</td><td></td></tr>
<tr><td><i><u>Kyuquot</u></i>
◆ ST 4</td><td>4. Achieve green-up 3 years earlier in IRM zone and 5 years earlier in VQ zones by:</td><td>4. Almost 40% of Kyuquot is VQO (20% of entire THLB). TSR1 ages and current actual practice ages are as follows:
<table>
<tr><th>Zone</th><th>Max %</th><th><ht (m)</th><th>TSR age</th><th>current age</th></tr>
<tr><td>IRM</td><td>25</td><td>3</td><td>14</td><td>10</td></tr>
<tr><td>Ret'n</td><td>5</td><td>5</td><td>20</td><td>12</td></tr>
<tr><td>P Ret'n</td><td>11</td><td>5</td><td>20</td><td>12</td></tr>
<tr><td>Mod'n</td><td>27</td><td>5</td><td>21</td><td>12</td></tr>
</table></td><td>4. Indications are the strategy is being achieved. Participants estimate 3m ht is achieved in 10 yrs. Kyuquot has 54% of TSA VQO's (20/37). Sensitivity analysis indicates a 4% gain in short term with g-up ages decreased 5 yrs. (.54 X .04) ⇒ 2%</td><td></td></tr>
<tr><td></td><td>(a) Plant large genetically improved stock;</td><td>(a) Regeneration is a mix of natural/plant, however all areas receive some planting. All Fdc, Hw [check] and Cw stock is A class. [How much 2nd gen?]</td><td></td><td></td></tr>
<tr><td></td><td>(b) reduce regeneration delay 1 yr by increasing proportion of area planted;</td><td>(b) All areas are planted with 1 yr regen delay avg. TSR 1 regen delays were 2 yrs for Fdc & 5 yrs for Hw. Assume avg gain 2 yrs.</td><td></td><td></td></tr>
<tr><td></td><td>(c) brush for growth enhancement;</td><td>(c) Brush competition is not normally a problem [check].</td><td></td><td></td></tr>
<tr><td></td><td>(d) space and fertilize suitable regenerated stands; and/or</td><td>(d) Fertilizing at time of planting is an option, although is associated with a basic silviculture activity (planting). Assume gain 1 - 2 yrs. [how much at</td><td></td><td></td></tr>
</table>

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	Harv Forecast (000 000s m3/yr)
		present?]		
	(e) plant 10% alder.*	(e) alder contributes to green-up as well as increases site productivity. Could gain 1 - 2 yrs. Not current practice.		
TSA				
• ST 5	5. Complete site index and existing stand volume estimation studies.	5. Noted under "Summary of Information and Research Needs," page 28.	5. Not factored into this harvest forecast.	
TSA ***Short Term Summary***			Assume responses are 2nd decade only. ST1 Sayward CT 3% ST 2 Sayward green-up 1% ST 3 Incr. Sayward vol's 1% ST 4 Kyuquot green-up 2% Total 7%	1.42 1st dec. 1.25 2nd dec. 0.09 7% gain 1.34 Start point is TSR1 AAC. 2nd decade is 12% less as per base case forecast.

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	Harv Forecast (000 000s m3/yr)
◆ Mid Term (21 - 110 yrs)	*The primary challenge in the mid term is to advance the growth of some of the existing age class 1 & 2 stands in the Kyuquot and Loughborough SB's to allow the early return of harvest back into these blocks, as well as to break up the age class structure.*			
Kyuquot				
◆ MT 1	1. Move age class 1 & 2 stands ahead for earlier harvest through:	1. There is about 60 000 ha of age class 1 & 2 in the Kyuquot.	1. Requires modelling.	
	(a) spacing; and	(a) About 15 000 ha could be spaced. Remainder is inaccessible or uneconomic to treat. **Potential program of 1 000 ha/yr.** Due to concerns about shallow rooting and blowdown, standard practice is to space to 850 - 1 000 stems/ha as late as possible (15 - 25 years).		
	(b) fertilizing.	(b) Hw response to fertilization is variable. Need to focus operational research into Hw fertilization response. Noted under "Summary of Information and Research Needs," page 28. Also an accessibility problem. Until more is known about response, relatively small **annual program of 200 ha** is reasonable.		
Loughborough				
◆ MT 2	2. Move age class 1 & 2 stands ahead for earlier harvest and break up age class structure through:	2. Most stands are age class 2 in the Loughborough. Many of the original roads are gone. Generally poor rocky sites. High treatment cost - all camp work.	2. Requires modelling to determine the dependency of the TSA harvest schedule on the age class structure of this SB.	
	(a) spacing; and	(a) Not many available areas for spacing. Most treatable stands are done. Remainder are too old. Only enough for a **small program of 100 ha/yr.**		
	(b) fertilizing.	(b) Hw response to fertilization is variable (see MT 1 above). Fragmentation of this SB makes grouping stands for treatment difficult. No program proposed until more is known about Hw fertilization response.		

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	Harv Forecast (000 000s m3/yr)
TSA				
• MT 3	3. Continue partial harvesting/CT in VQO zones as in ST1 above.	3. The Sayward has substantial opportunity for CT. Limited opportunities exist in the other 2 SB's.	3. Sensitivity analysis indicates a 19% gain with a 5% relaxation in constraints. Assume 25% of this ⇒ 4%	
TSA				
• MT 4	4. Increase existing stand volumes 10% by: (a) continuing as per ST 3 the Sayward SB; and (b) over time, intensifying the management of Hw in the Kyuquot SB (as per ST 4); and (c) commercial thinning 400 ha/yr to capture mortality.	4. Continuing. (a) See ST3. (b) See ST4 (c) Current level of activity.	4. Sensitivity test indicates a 10% increase in existing stand vol's gives a 10% incr. in mid term harvest levels. (a) See ST3 ⇒ 2% across entire TSA. (b) See ST4 ⇒ 2% across entire TSA. (c) very small effect on a TSA-wide basis.	
TSA				
• MT 5	5. (a) Increase regenerated stand volumes 20%; and (b) reduce green-up ages 3 years by: (i) planting all areas; (ii) reducing time to regeneration; (iii) using A class seed or better;	5. (i) Approx. 80% + of harvested areas are planted, with some fill planting on the remainder. Likely at its maximum. (ii) See ST 2 & ST 4 above. (iii) All Fdc and Cw seed is "A" class. Latest estimates of yield gains are (%):[2] Species — 1st gen — 2nd gen Doug-fir — 3-5 — 15 Hemlock — 3 — 20 Cedar — 3 — 10 **A tree improvement program for Ba is needed.** Noted under "Summary of Information and Research	5. These are associated with basic silviculture activities. (a) Assume regenerated stand yields increased by: (iii) 10% tree improvement (requires at least 25% 2nd generation stock); (v) 5% void management (more in Sayward, less in Loughborough); (vi) 1% fertilization. Total = 16% Sensitivity tests indicate a 7% MT increase from	

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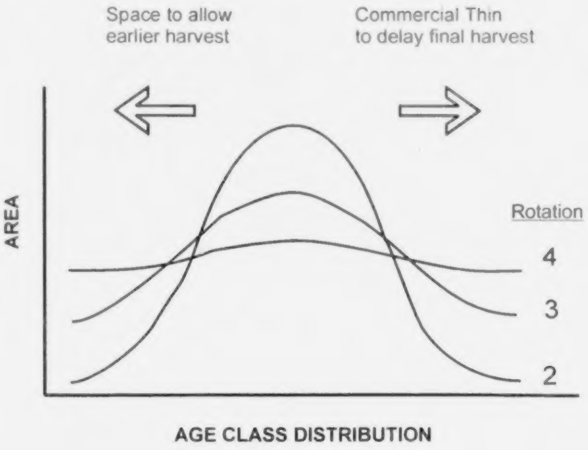
[2] Source: participants at Fraser TSA district meeting.

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	Harv Forecast (000 000s m3/yr)
	(iv) using large planting stock; (v) managing stocking to reduce voids 5%; (vi) fertilizing regenerated stands (cedar?) where efficacy is proven.	Needs," page 28. (iv) Basic silviculture item. Larger stock could be used but not likely in current economic conditions. (v) Voids can be desirable for wildlife habitat. Current free growing requirements will result in < 15% in voids, especially in the Sayward, however amount is unknown. Noted under "Summary of Information and Research Needs," page 28. (vi) "Tea bag" seedlings? Not likely to fertilize prior to FG. Post FG see ST2, ST 3, MT2, MT3.	increasing regenerated stand volumes 20% ∴(16/20 X .07) ⇒ 6%. (b) See ST 2 & ST4. A 5 yr green-up reduction is probable (assume Loughborough = other SB's). Sensitivity tests indicate a 6% increase from a 5 yr reduction in green-up. ⇒ 4%. Unknown if effects are additive or perhaps compounded. (Fig 25 of TSR analysis (p 31) indicates at least additive.) Increased site productivity may further compound these effects.	
TSA ***Mid Term Summary***			MT3 Partial Harvest / CT 4% MT 4a Incr. Sayward vol's 2% MT 4b Incr. Kyuquot vol's 2% MT 5a Incr. regen. vol's 6% MT 5b Decr. green-up ages 4% Total 18%	0.94 base 0.17 18% 1.11

Response Time Frame	**Potential Strategy/Action**	**Discussion / Current Status**	**Anticipated Result**	**Harv Forecast** (000 000s m3/yr)
♦ Long Term (111 + yrs)	*Over the long term, the challenge is to normalize the age class distributions of the Sayward and Kyuquot SB's and to increase regenerated stand volumes.*			
Sayward				
♦ LT 1	1. Break up the concentration of ages into a normal forest by: (a) spacing some stands to bring them to harvestable size earlier and move them forward in the harvest queue; (b) spacing some stands to set up for CT; and (c) CT some stands to delay	1. The diagram below shows how over several harvest rotations, the strategy will redistribute the age classes into a more even distribution.  The district expects to soon assign to every stand a target harvest age within 5 year age groupings. (a) Current program is to **space 200 ha/yr for bringing harvest ages forward** (b) Current program is to **space 100 ha/yr for setting up for CT**. (c) Current program is to **CT 400 ha/yr** for the dual	1. Effect unknown - requires modelling. Ultimately beneficial in meeting adjacency/green-up requirements. Allows for the Sayward to be potentially managed as an independent management unit as some future time.	

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	Harv Forecast (000 000s m3/yr)
	final harvest by 1 age class.	purpose of delaying final harvest ages as well as overcoming adjacency constraints.		
Sayward				
♦ LT 2 ♦ H 1	2. Create old forest characteristics as early as possible through a regime of spacing / fertilization / CT / fertilization.	2. The Sayward has few older forests. Anticipated as a future issue - TSR 1 did not include an older forest requirement in base case. Forest structure can be advanced similar to that of older forests through this strategy. Existing programs will accomplish this.	2. Effect unknown. No TSR 1 sensitivity test. Requires modelling.	
Kyuquot				
♦ LT 3	3. Break up age class structure by continuing MT1.	3. See MT 1	3. See MT 1. Requires modelling.	
Lough-borough				
♦ LT 4	4. Break up age class structure by continuing MT2.	3. See MT 2	3. See MT 2. Requires modelling.	
TSA				
♦ LT 5	5. Increase regenerated stand volumes 20% by continuing MT5.	5. See MT5.	5. See MT5. ⇒ 16%	
TSA **Long Term Summary**			LT 5 Incr. regen. vol's 16% Total 16%	1.09 base 0.17 16% 1.26 total

Potential Harvest Forecast

Figure 5 graphs the potential harvest level that may be attained through implementation of the silvicultural strategies in the preceding tables. This forecast is highly speculative and requires confirmation through computer-based modeling and analysis. It also includes silvicultural activities that are not within the traditional scope of incremental silviculture. Modeling may indicate more precise timing, targeting and program levels associated with incremental silviculture activities than could be developed in this interim strategy.

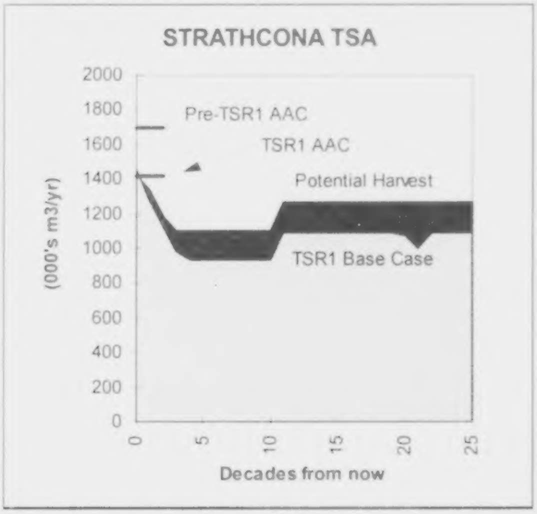


Figure 5. Potential harvest forecast, Strathcona TSA

Opportunities to Improve Timber Quality

The effects of incremental silviculture on the future quality of the timber resource were not analyzed in the timber supply review. Information in this section was gathered during the district working session.

Product Objectives

The following are product objectives at the log level for the Strathcona TSA.

Quality Class	Species	Characteristics
Premium Log:	Douglas-fir, clear, pruned	45+ cm min DBH, pruned, min 5 m log.
	Douglas-fir, large timber	55+ cm min DBH, unpruned.
	Douglas-fir, clear, unpruned	long rotation.
	Hemlock, large timber	55+ cm min DBH, unpruned.
	Hemlock, clear, unpruned	long rotation.
	Cedar, large timber	55+ cm min DBH, unpruned.
	Cedar, clear, unpruned	2 rotations in stand.
Sawlog:	Minimum average stand DBH of 45 cm and min. stand vol. of 350 m3/ha. [check. These are common specs elsewhere, but were not discussed at the district working session. Suspect in Sayward they could be lower. What is merch CT material?]	

Available Information Regarding Potential Treatments and Treatable Area

Treatment	Comment/ Potential Treatment Regimes	Treatable Area
◆ Incremental Silviculture		
◆ Spacing	There is debate in professional circles regarding the benefits of spacing. However, actual stand measurements of trials at Shawnigan Lake (in Douglas-fir stands), as opposed to modeled projections, are showing increases in mean diameters with little or no loss in total volume, 24 years after treatment.	
◆ Commercial Thinning		
◆ Pruning		
◆ Space/ Prune		
◆ Space/ Prune/Fert		
◆ Other		

Potential Strategies by Response Time Frame

The following strategies have potential to increase timber quality. These were identified in the district working session. The response time frame is the period in which the anticipated result is expected, not the period in which actions must necessarily commence.

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	Premium Log Forecast
• Short Term (1 - 20 yrs)	None	Short term harvests will come from existing very old stands which are not treatable to improve quality.	Quality profile of existing old growth will prevail. Assume this is equal to a recent coast-wide estimate of 15%.	15%?
• Mid Term (21 - 160 yrs)	Q1. Prune 200 ha/yr in the Sayward SB to yield a 5 m log. Q2. Prune 50 ha/yr in the Kyuquot SB to 5.5 m to yield a 5 m log [check] Q3. Manage for large dimension timber. Q4. Manage for clear timber through long rotations of selected stands.	1. Normal regime is to prune in 2 lifts to 5.5 m, Dfc good and medium site only. Because many stands are already 1^{st} lift pruned, most treatments in the near future will be 2^{nd} lift. Net effect is 200 ha/yr treated for 2 lift pruning. [check - are all stems pruned, or only $2/3^{rd}$'s as often the case elsewhere?] 2. Normal regime is to prune in 2 lifts to 5.5 m, Dfc & Hw, good and medium site only. Because many stands are already 1^{st} lift pruned, most treatments in the near future will be 2^{nd} lift. Net effect is 50 ha/yr treated for 2 lift pruning. 3. Commercially thinned stands will yield large dimension timber where residual stems are left for a significant time before final harvest. [note: if these are pruned, will overlap with 1 & 2 above] 4. It is likely that at least 5% of stands must be held in an older forest condition. If this condition is renewable, would mean 5% of harvests would be from such stands on a periodic basis. Assume 5% every 20 years (1 age class), means 0.25%/yr. The issue of natural pruning achieved through managing stands to higher densities vs. manual pruning arose in the district working session. More analysis of the economics of these management choices is needed. Noted under "Summary of Information and Research Needs," page 28.	1 & 2. 250 ha is approx 13% of annual area harvested. Assume 5 m log is 20% of tree vol. (.13 X .20) ⇒ 3%. 3. See large dimension timber calculation below. 4. Negligible.	1,2 3% clear 3. 4% large Assume $1/3^{rd}$ of clear are also large, net total = 6%

<table>
<tr><th>Response Time Frame</th><th>Potential Strategy/Action</th><th>Discussion / Current Status</th><th>Anticipated Result</th><th>Premium Log Forecast</th></tr>
<tr><td>◆</td><td></td><td>Large dimension timber calculation:
Avg. annual area harvested = 2 000 ha
Although program calls for 1 000 ha/yr spacing Hw in Kyuquot, much of this is a "backlog". For this calc, a steady state level of 300 ha/yr in M/G sites assumed.
% > 60 cm is from TIPSY stock table, rounded to nearest 5%.
Bottom 5m log = 20% of tree vol.
% large = (Area/2000) X (% > 60 cm) X (20% of tree vol.)
<table>
<tr><th>Species</th><th>SI</th><th>Cul Age</th><th>Space frm/to:</th><th>Area</th><th>% > 60cm</th><th>% large</th></tr>
<tr><td>Fdc</td><td>35</td><td>80</td><td>1600/800</td><td>200</td><td>40</td><td>1</td></tr>
<tr><td></td><td>30</td><td>80</td><td>unspaced</td><td>200</td><td>10</td><td>0</td></tr>
<tr><td>Hw/othr</td><td>30</td><td>100</td><td>4000/900</td><td>300</td><td>35</td><td>1</td></tr>
<tr><td></td><td>27.5</td><td>100</td><td>unspaced</td><td>1300</td><td>15</td><td>2</td></tr>
<tr><td>Total</td><td></td><td></td><td></td><td>2000</td><td></td><td>4</td></tr>
</table></td><td></td><td></td></tr>
<tr><td>◆ Long Term (161 + yrs)</td><td>As above.</td><td>As above.</td><td>As above.</td><td>4%</td></tr>
</table>

Timber Quality Forecast

The foregoing analysis indicates the premium log content of harvests in the mid and long term will be substantially lower than today's levels (6% forecast vs. current estimate of 15%). A higher level of pruning program than currently planned would serve to improve future timber quality, however, there is a lack of treatable stands due to accessibility and cost.

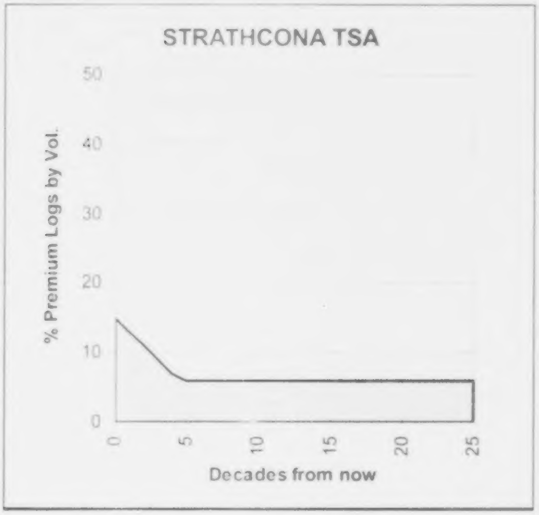


Figure 6. Potential Quality Forecast, Strathcona TSA

This quality forecast is for a combination of clear logs and large-dimension premium logs. Large logs are projected to be 4% of future harvests and clear logs 3%. However, approximately 1/3rd of clear logs will also be large logs, resulting in a net premium log forecast of 6% of future volumes.

Incremental Silviculture Strategy

This section synthesizes the preceding background information and analysis into an incremental silviculture strategy for the TSA.

General Strategy

The Strathcona TSA has limited ability to overcome forecast reductions in timber supply in the mid term. Central to increasing long term timber supply is the use of 2nd generation or better improved seedlings. Ensuring future timber quality is particularly important, given the indicated trend toward substantially lower premium log harvest levels in the future. Spacing and commercial thinning are essential practices towards the objective of breaking up the concentration of area in younger age classes. Pruning is needed to ensure at least a minimal level of premium logs in the future.

Working Targets

The preceding analysis indicates the following working targets are attainable. Figure 7 illustrates these.

WT 1 (Quantity): Manage mid-term timber supplies to yield a harvest of approximately 1.10 million m3/yr and long term supplies to yield 1.25 million m3/yr.

WT 2 (Quality): Manage regenerated stands to yield at least 6% premium logs by volume, with the majority of the remainder being of sawlog quality.

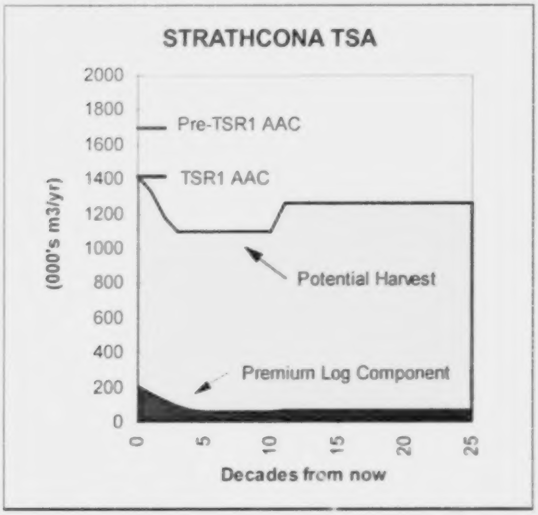


Figure 7. Combined Potential Quantity and Quality Harvest Forecasts, Strathcona TSA

Log Product Objectives

The following are product objectives at the log level for the Strathcona TSA.

Quality Class	Species	Characteristics
Premium Log:	Douglas-fir, clear, pruned	45+ cm min DBH, pruned, min 5 m log.
	Douglas-fir, large timber	55+ cm min DBH, unpruned.
	Douglas-fir, clear, unpruned	long rotation.
	Hemlock, large timber	55+ cm min DBH, unpruned.

Hemlock, clear, unpruned	long rotation.
Cedar, large timber	55+ cm min DBH, unpruned.
Cedar, clear, unpruned	2 rotations in stand.

Sawlog: Minimum average stand DBH of 45 cm and min. stand vol. of 350 m3/ha.

Silviculture Strategies

Strategies to Increase the *Quantity* of Future Timber Supply

The following strategies have identified potential to increase the quantity of the timber supply of the Strathcona TSA. (Strategy numbers correspond with those recorded earlier.)

No.	Strategy
ST1	In the Sayward SB, commercial thin 400 ha/yr to overcome adjacency constraints.
ST2 & ST4	In the Sayward and Kyuquot SB's, achieve green-up 3 years earlier in IRM zone and 5 years earlier in VQ zones by: (a) Planting large genetically improved stock; (b) reducing regeneration delay 1 yr by increasing proportion of area planted; (d) space and fertilize (?) suitable regenerated stands; and/or (e) plant 10% alder.*
ST3	In the Sayward, increase existing stand volumes 10% by: (a) spacing to prepare for CT; (b) multiple fertilization of suitable Fdc stands (annual program 1 500 ha/yr); and (c) commercial thinning to capture mortality.
MT1 & MT2	In the Kyuquot and Loughborough SB's, move age class 1 & 2 stands ahead for earlier harvest and to break up age class structure through: (a) spacing 1100 ha/yr; and (b) fertilizing 200 ha/yr.
MT3	Continue partial harvesting/CT in VQO zones as in ST1 above.
MT4	Increase existing stand volumes 10% by: (a) continuing as per ST 3 the Sayward SB; and (b) over time, intensifying the management of Hw in the Kyuquot SB (as per ST 4); and (c) commercial thinning 400 ha/yr to capture mortality.
MT5	(a) Increase regenerated stand volumes 20%; and (b) reduce green-up ages 3 years by: (i) planting all areas;

No.	**Strategy**
	(ii) reducing time to regeneration; (iii) using A class seed or better; (iv) using large planting stock; (v) managing stocking to reduce voids 5%; (vi) fertilizing regenerated stands (cedar?) where efficacy is proven.
LT1, LT 3 & LT 4	In all 3 supply blocks, break up the concentration of ages into a normal forest by: (a) spacing and fertilizing some stands to bring them to harvestable size earlier and move them forward in the harvest queue; (b) spacing some stands to set up for CT (mostly Sayward); and (c) CT some stands to delay final harvest by 1 age class (mostly Sayward).
LT5	Increase regenerated stand volumes 16% by continuing MT5.

Tree improvement is critical to achievement of a number of the preceding strategies.

Strategies to Increase the *Quality* of Future Timber Supply

The following strategies have identified potential to increase the quality of the timber supply of the Kingcome TSA.

No.	**Strategy**
Q1 & Q2	Prune 200 ha/yr in the Sayward SB and 50 ha/yr in the Kyuquot SB (achieves 250 ha/yr of 5.5 m 2 lift pruning) to increase premium log content of future harvests by 3% by volume.
Q3	Manage selected stands for large dimension timbers.
Q4	Manage for clear timber through long rotations of selection stands.

Strategies to Increase the *Quantity* or *Quality* of Future Habitat Supply

(Note: The following strategy was developed in the district working session during discussion of the regime table and is not previously discussed in this document.)

The following strategy has identified potential to increase the quality or quantity of the habitat supply of the Strathcona TSA.

No.	**Strategy**
H1	In the Sayward, create old forest characteristics as early as possible through a regime of spacing / fertilization / CT / fertilization. (This can be achieved in conjunction with other

No.	Strategy
	programs and does not require additional activity goals.)
H2	Space 50 ha/yr to [what density?] for [what purpose?].

Summary of Information and Research Needs

During the assessment process, the following needs for further information and research became apparent. The outcome of these have implications for an incremental silviculture strategy. Bracketed numbers refer to the strategy numbers under which the need is identified.

1. A tree improvement program for Balsam is needed. (MT5)
2. OAF 1 factor of 15% requires confirmation. Survey techniques are available. Requires statistical validity at the management unit level if to be used for AAC determination. (MT5)
3. Old growth site index and existing stand volume estimation studies require completion. (ST5)
4. Hemlock response to fertilization is variable. Were the causes for this determined there may be considerable potential for hemlock fertilization to improve the harvest forecast. (MT1, MT2)
5. More information and analysis is needed regarding natural versus manual pruning regimes, particularly in hemlock forests (Q1, Q2, Q4).

Silviculture Regimes and Investment Priorities

The following table indicates incremental silviculture regimes which are suitable to attaining the above working targets and strategies.

Regime Table, Strathcona TSA, July 1998

	Strategy	Oppo'tunity	Timber Supply Effects				Habitat			Direct Silv. Jobs	Direct Cost	Rank[1,2]		
Regimes		Area (Ha/Yr)	Short	Medium	Long	Quality	OG	Riparian	Wildlife	Days/ha	$/ha	S	K	L
1 Backlog Brushing		100	0	0	0	0	0	0	0	1	1000	na	3/2	3/1
Spacing														
CT Regimes (Sayward @ 10 - 12 yrs)														
2 Fd M-G sites >1600 to 900 (2 entry CT)	ST3, MT4, LT1	100	0	++	0	+	++	0	+	2.5	900	2/2	na	na
3 Fd M-G sites >1600 to 750 (1 entry CT)	ST3, MT4, LT1	100	0	++	0	+	++	0	+	2.5	900	2/2	na	na
non-CT Regimes														
HB,HF/HC M-G sites, 3-5000 to 750-1000														
4 Kyuquot	MT1	1000	0	++	0	+	0	0	+	4	1300		2/1	
5 Sayward	LT1	200	0	++	0	+	0	0	+		900	3/3		
6 Loughborough	MT2	100	0	++	0	+	0	0	+		1600			3/1
7 Habitat	H2	50	0	0	0	0	+	+	++	2.5	1600	3/3	3/3	
Pruning														
8 Fd M-G spaced stands (Sayward) 2nd lift	Q1	200	0	0	0	++	0	0	+	10	1350	4/4	4/5	
9 FdHw M-G spaced (Kyuquot) 2nd lift	Q2	50	0	0	0	++	0	0	+	10	1350	4/4	4/5	
Fertilization														
Fd M-G /CT age 40-50														
Fd M-G /spaced, no CT, age 40-50														
Fd M-G /spaced, no CT, younger ages														
10 Sayward	ST3	1300	++	++	+	0	+	0	0	.1	275	1/1[3]		
11 Kyuquot	MT1	200	++	++	+	0	+	0	0	.1	275		3/3	

Notes
1 Rank S=Sayward, K=Kyuquot, L=Loughborough
2 General ranking: H = 1 & 2; M = 3; L = 4 & 5
3 n/m: **n** is TSA rank, m is supply block rank

[check - both pruning regimes show as 2nd lift]

Incremental Silviculture Program

The following annualized program will contribute to achieving the above goals and strategies.

Program Table - Hectares Treated, Strathcona TSA, July 1998

Year	Surveys	Backlog Brushing	Space	Prune	Fertilize	Total
1	7,000	100	1,550	250	1,500	3,400
2	7,000	100	1,550	250	1,500	3,400
3	7,000	100	1,550	250	1,500	3,400
4	7,000	-	1,550	250	1,500	3,300
5	7,000	-	1,550	250	1,500	3,300
Subtot Yr 1 - 5	35,000	300	7,750	1,250	7,500	51,800
6 - 10	35,000	-	7,750	1,250	7,500	51,500
Total Yr 1 - 10	70,000	300	15,500	2,500	15,000	103,300
Unit cost ($/ha)	50	1,000	1,226	1,350	275	

Program Table - $ 000s, Strathcona TSA, July 1998

Year	Surveys	Backlog Brushing	Space	Prune	Fertilize	Total
1	350	100	1,900	338	413	2,750
2	350	230	1,900	338	413	2,880
3	350	230	1,900	338	413	2,880
4	350	-	1,900	338	413	2,650
5	350	-	1,900	338	413	2,650
Subtot Yr 1 - 5	1,750	560	9,502	1,688	2,063	15,562
6 - 10	1,750	-	9,502	1,688	2,063	15,002
Total Yr 1 - 10	3,500	560	19,003	3,375	4,125	30,563

[check - is surveys 7 000/yr or 14 000?]

Job Outcomes

The following are the anticipated job outcomes associated with the preceding program, assuming the program is maintained into the future as necessary to achieve the working targets.

Program Job Outcomes, Strathcona TSA, July 1998

Short term employment associated with undertaking the silviculture activity, in person years

Year	Surveys	Backlog Brushing	Space	Prune	Fertilize	Total
1	3.9	0.6	30.1	13.9	0.8	45
2	3.9	0.6	30.1	13.9	0.8	45
3	3.9	0.6	30.1	13.9	0.8	45
4	3.9	-	30.1	13.9	0.8	45
5	3.9	-	30.1	13.9	0.8	45
Subtot Yr 1 - 5	19	2	151	69	4	226
6 - 10	19.4		151	69	4	226
Total Yr 1 - 10	39	2	301	139	8	452

Note: Assumes 180 days of silviculture work = 1 job (Source: Jobs and Timber Accord)

Long term employment associated with improved quality and quantity of the timber resource [1]

Decade	Harvest Increment ('000 m3)	Incremental Jobs			
		per year by decade		Total by decade	
		TSA[2]	Prov[3]	TSA	Prov
1	-	-	-		
2	58	30.8	76.2	308	762
3	117	62.0	153.3	620	1,533
4	162	85.9	212.2	859	2,122
5	162	85.9	212.2	859	2,122
6	162	85.9	212.2	859	2,122
7	162	85.9	212.2	859	2,122
8	162	85.9	212.2	859	2,122
9	162	85.9	212.2	859	2,122
10	162	85.9	212.2	859	2,122
11	172	91.2	225.3	912	2,253
12	172	91.2	225.3	912	2,253
13	172	91.2	225.3	912	2,253
14	172	91.2	225.3	912	2,253
15	172	91.2	225.3	912	2,253
16	172	91.2	225.3	912	2,253
17	172	91.2	225.3	912	2,253
18	172	91.2	225.3	912	2,253
19	172	91.2	225.3	912	2,253
20	188	99.6	246.3	996	2,463
21	256	135.7	335.4	1,357	3,354
22	172	91.2	225.3	912	2,253
23	172	91.2	225.3	912	2,253
24	172	91.2	225.3	912	2,253
25	172	91.2	225.3	912	2,253
Total				21,143	52,259

Notes:

1 Assumes continuation of on the incremental silvicIture program beyond the first 10 years, in accordance with the strategy. The total harvest increment is associated with all the silvicultural practices documented in the "Opportunities" section and is only partly attributable to spacing and fertilization practices. Some of the increase may be associated with pre-free growing silviculture that was not current practice at the time of TSR1.

2 Assumes 0.53 TSA level harvesting and processing jobs (PYs) per 1000 cubic metre (Source: Queen Charlotte Islands SEA)

3 Assumes 1.31 Provincial level harvesting and processing jobs (PYs) per 1000 cubic metre (Source: Queen Charlotte Islands SEA)

References

B.C. Ministry of Forests. 1991. *Regional Stand Tending Guidelines*. Vancouver Circular Letter VR91-558. Vancouver Forest Region, Nanaimo, British Columbia. 24p + Appendices.

________. 1994. *Strathcona TSA: Timber Supply Analysis*. Timber Supply Branch, Victoria, British Columbia. 58p.

________. 1995. *Strathcona Timber Supply Area: Timber Supply Review Discussion Paper*. Timber Supply Branch, Victoria, British Columbia. 14p.

________. 1996. *Forest Management Issues identified Through the AAC Determination Process*. Timber Supply Branch, Victoria, British Columbia. 331p.

________. 1997a. *Summary of Timber Supply Review Results 1992 to 1996*. Timber Supply Branch, Victoria, British Columbia. 20p.

________. 1997b. *Assumptions Included in Timber Supply Analyses: Timber Supply Areas & Tree Farm Licences*. Forest Practices Branch, Victoria, British Columbia. 115p.

________. 1998a. *Guidance towards Participation in the Forest Renewal BC Planning Process and the Development of Resource Management Plans*. Victoria, British Columbia. 20p.

________. 1998b. *Vancouver Region Incremental Silviculture Objectives*. Handout. Vancouver Forest Region. Nanaimo, British Columbia. 1p.

McWilliams, Eleanor and Guillaume Therien, 1997. *Fertilization and Thinning Effects on a Douglas-fir Ecosystem at Shawnigan Lake: 24-year Growth Response*. FRDA Report 269, revised edition. Joint publication of the Canadian Forest Service and the British Columbia Ministry of Forests, Victoria, British Columbia. 44p.

Pedersen, L. 1996. *Strathcona Timber Supply Area Rationale for Allowable Annual Cut (AAC) Determination*. Victoria, British Columbia. 39p + Attachments.

Timberline Forest Inventory Consultants Ltd. 1997. *Forest Level Benefits to Commercial Thinning and Fertilization*. Prepared for the B.C. Ministry of Forests, Forest Practices Branch, Victoria, British Columbia. 64p.

APPENDIX 18
VANCOUVER FOREST REGION RESOURCE MANAGEMENT PLAN
2000/2001
WOODLOT LICENCES

Background/Process

A year ago, an Opportunity Plan was developed to identify all FRBC eligible activities on Woodlot Licences in the Vancouver Forest Region. All Woodlot Licence holders were contacted with ground checks done to confirm the opportunities. Three years of backlog and enhanced forestry activities were identified. Opportunities on both Schedule A and B Lands were compiled. However, FRBC indicated that only those activities on Schedule B Lands would be eligible for funding. The data submitted in this Resource Management Plan (RMP) is only for activities on Schedule B Lands.

A total of $200,000 of activities from the tree year Opportunity Plan were approved for the current fiscal year (1999/2000). A review of this year's approved works assisted in the setting of the priorities for this RMP. Unfunded activities have been deferred into the next fiscal, so what is presented here is a two year plan. A refinement and extension to this plan is expected to be completed, dependant on available funding.

In July of this year, the list of eligible activities was assigned priorities. This list is as a result of discussions with FRBC and MOF staff as well as some Woodlot Licence holders:

HIGH PRIORITY
- backlog planting
- backlog brushing
- other backlog work (including site prep)

MEDIUM
- surveys and prescriptions
- other brushing
- fertilizing - medium fir types
- fertilizing - other
- spacing - cottonwood/deciduous
- spacing - fir
- spacing - hemlock
- spacing - other
- pruning - fir, high sites
- pruning - other
- other Enhanced Forestry activities
- Forest Health

LOW

- ecosystem mapping
- vegetation inventories
- terrain stability
- traditional use
- watershed restoration
- wildlife surveys
- recreation activities
- other

Once compiled, this list was referred for comments to representatives of the Woodlot Licence holders, the Woodlot Officers in each Forest District and other ministry staff. Comments were received and noted. Comments revealed that priorities may be slightly different from one district to the next but for the most part, there was agreement on the priorities. It was recognised that specific projects may not be assigned in order of priority if other factors come into play. Other factors that will affect the allocation to the prioritised activities will include things such as the past allocation to individual licencees, equity between districts and a cap on certain activities. One Woodlot Licence holder strongly disagreed with the manner that the priorities were set. He stated that each licencee knows where his priorities lie, that he should be given a percent of the total allocation and that he would be the one to decide where the money is spent.

I have been advised that the list of priorities on Woodlots will not be compared with District, or TSA priorities. ie – Woodlot Licence priorities will stand on their own.

Respectfully submitted,

Paul Tataryn
Small Business Forester
Vancouver Forest Region

WOODLOT LICENCES
Table A: Backlog Activities
2000/2001 PLAN

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
Legal Obligations	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2 Site preparation	0	0	0	0	0	0	0	0
3 Planting	0	0	0	0	0	0	0	0
4 Brushing	3	0	0	0	0	3,000	909	1
5 Seed purchase	0	0	0	0	0	0	0	0
6 Max. density spacing	0	0	0	0	0	0	0	0
7 Pruning	0	0	0	0	0	0	0	0
Totals	3	0	0	0	0	3000	$907	

Backlog Reforestation

1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2 Site preparation	0	0	0	0	0	0	0	0
3 Site restoration road/land. rehab	0	0	0	0	0	0	0	0
4 Planting	13	0	0	0	0	30,000	2,308	1
5 Brushing	16	13	0	0	0	11,600	725	1
6 Seed purchase	0	0	0	0	0	0	0	0
Totals	29	13	0	0	0	$41,600	$1,434	

Impeded areas

1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2 Site preparation	0	0	0	0	0	0	0	0
3 Planting	0	0	0	0	0	0	0	0
4 Brushing	0	0	0	0	0	0	0	0
5 Seed purchase	0	0	0	0	0	0	0	0
Totals	0	0	0	0	0	$0	$0	

Backlog Activities - Management Unit Total

1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	
2 Site preparation	0	0	0	0	0	0	0	
3 Site restoration road/land. rehab	0	0	0	0	0	0	0	
4 Planting	13	0	0	0	0	30,000	2,307	
5 Brushing	19	13	0	0	0	14,600	756	
6 Seed purchase	0	0	0	0	0	0	0	
7 Max. density spacing	0	0	0	0	0	0	0	
8 Pruning	0	0	0	0	0	0	0	
9 Studies	0	0	0	0	0	0	0	0
Totals	32	13	0	0	0	$44,600	$1,380	

WOODLOT LICENCES
Table B: Stand Tending Activities
2000/2001 PLAN

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	1293	94	0	0	0	$76,200	$59	1
2 Spacing	436	43	0	0	0	577,385	1,324	2
3 Pruning	184	117	0	0	0	435,405	2,366	3
4 Fertilizing	451	68	0	0	0	223,438	495	2
5 Studies	0	0	0	0	0	0	0	0
6 Other	0	0	0	0	0	0	0	0
Totals	2364	322	0	0	0	1312428	$555	

WOODLOT LICENCES
Table C: Forest Health Enhancement Activities
2000/2001 PLAN

Activities	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Site rehab	0	0	0	0	0	$0	$0	0
2 Spacing	0	0	0	0	0	0	0	0
3 Pruning	0	0	0	0	0	0	0	0
4 Studies	0	0	0	0	0	0	0	0
5 Others	0	0	0	0	0	0	0	0
Totals	0	0	0	0	0	$0	$0	

WOODLOT LICENCES
Table D: Forest Health Maintenance Activities
2000/2001 PLAN

			Five-year Plan Goals (ha)					Annual Plan 2000/01		
	Activities	Units	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1	Ground Surveys	ha	100	0	0	0	0	$7,000	$70	4
2	Aerial Surveys	hours of flying time	0	0	0	0	0	0	0	0
3	Fall and burn treatment	trees	0	0	0	0	0	0	0	0
4	MSMA treatment	trees	0	0	0	0	0	0	0	0
5	Pheromone baiting	trees	0	0	0	0	0	0	0	0
6	Defoliator spraying	ha	0	0	0	0	0	0	0	0
7	Studies	number	0	0	0	0	0	0	0	0
8	Other		0	0	0	0	0	0	0	0
	Totals		100	0	0	0	0	$7,000	$70	

WOODLOT LICENCES
Table E: Current Fire and Pest Activities
2000/2001 PLAN

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
Activities	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2 Site preparation	0	0	0	0	0	0	0	0
3 Planting	0	0	0	0	0	0	0	0
4 Brushing	0	0	0	0	0	0	0	0
5 Max. density spacing	0	0	0	0	0	0	0	0
6 Studies	0	0	0	0	0	0	0	0
7 Other	0	0	0	0	0	0	0	0
Totals	$0	$0	$0	$0	$0	$0	$0	

WOODLOT LICENCES
Table F: Habitat Supply Activities
2000/2001 PLAN

	Five-year Plan Goals (ha)					Annual Plan 2000/01		
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	0
2 Site preparation	0	0	0	0	0	0	0	0
3 Planting	0	0	0	0	0	0	0	0
4 Brushing	0	0	0	0	0	0	0	0
5 Spacing	0	0	0	0	0	0	0	0
6 Pruning	0	0	0	0	0	0	0	0
7 Studies	0	0	0	0	0	0	0	0
8 Others	0	0	0	0	0	0	0	0
Totals	0	0	0	0	0	$0	$0	

WOODLOT LICENCES
Summary Table
2000/2001 PLAN

	Five-Year Plan Goals (ha)					Annual Plan 2000/01		
Table Totals	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
Table A: Backlog Activities	32	13	0	0	0	44,600	1,380	
Table B: Stand Tending Activities	2,364	322	0	0	0	1,312,428	555	
Table C: Forest Health Enhancement Activities	0	0	0	0	0	0	0	
Table D: Forest Health Maintenance Activities	100	0	0	0	0	7,000	70	
Table E: Current Fire and Pest Activities	0	0	0	0	0	0	0	
Table F: Habitat Supply Activities	0	0	0	0	0	0	0	
Totals of all tables	2,496	335	0	0	0	1,364,028	546	

Activities Sorted by Priority (Ctl-e)

					Five-Year Plan Goals (ha)					Annual Plan 2000/01		
Table and category			**Activity**		2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Man. Unit Priority
A	Backlog	Legal	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
A	Backlog	Legal	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog	Legal	3	Planting	0	0	0	0	0	0	0	0
A	Backlog	Legal	4	Brushing	3	0	0	0	0	3,000	909	1
A	Backlog	Legal	5	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog	Legal	6	Max. density spacing	0	0	0	0	0	0	0	0
A	Backlog	Legal	7	Pruning	0	0	0	0	0	0	0	0
A	Backlog	Backlog	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
A	Backlog	Backlog	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog	Backlog	3	Site Restoration Road/land.	0	0	0	0	0	0	0	0
A	Backlog	Backlog	4	Planting	13	0	0	0	0	30,000	2,308	1
A	Backlog	Backlog	5	Brushing	16	13	0	0	0	11,600	725	1
A	Backlog	Backlog	6	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog	Impeded	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
A	Backlog Impeded	2	Site preparation	0	0	0	0	0	0	0	0
A	Backlog Impeded	3	Planting	0	0	0	0	0	0	0	0
A	Backlog Impeded	4	Brushing	0	0	0	0	0	0	0	0
A	Backlog Impeded	5	Seed Purchase	0	0	0	0	0	0	0	0
A	Backlog Total	7	Studies	0	0	0	0	0	0	0	0
B	Stand Tending	1	Planning/surveys/presc.	1,293	94	0	0	0	76,200	59	1
B	Stand Tending	2	Spacing	436	43	0	0	0	577,385	1,324	2
B	Stand Tending	3	Pruning	184	117	0	0	0	435,405	2,366	3
B	Stand Tending	4	Fertilizing	451	68	0	0	0	223,438	495	2
B	Stand Tending	5	Studies	0	0	0	0	0	0	0	0
B	Stand Tending	6	Other	0	0	0	0	0	0	0	0
C	F. H. Enhancement	1	Site rehab	0	0	0	0	0	0	0	0
C	F. H. Enhancement	2	Spacing	0	0	0	0	0	0	0	0
C	F. H. Enhancement	3	Pruning	0	0	0	0	0	0	0	0
C	F. H. Enhancement	4	Studies	0	0	0	0	0	0	0	0
C	F. H. Enhancement	5	Others	0	0	0	0	0	0	0	0
D	F. H. Maintenance	1	Ground Surveys (ha)	100	0	0	0	0	7,000	70	4
D	F. H. Maintenance	2	Aerial Surveys (hours flying	0	0	0	0	0	0	0	0
D	F. H. Maintenance	3	Fall & burn treatment (trees	0	0	0	0	0	0	0	0
D	F. H. Maintenance	4	MSMA treatment (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	5	Pheromone baiting (trees)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	6	Defoliator spraying (ha)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	7	Studies (number)	0	0	0	0	0	0	0	0
D	F. H. Maintenance	8	Other	0	0	0	0	0	0	0	0
E	Current Fire/Pest	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
E	Current Fire/Pest	2	Site preparation	0	0	0	0	0	0	0	0
E	Current Fire/Pest	3	Planting	0	0	0	0	0	0	0	0
E	Current Fire/Pest	4	Brushing	0	0	0	0	0	0	0	0
E	Current Fire/Pest	5	Max. density spacing	0	0	0	0	0	0	0	0
E	Current Fire/Pest	6	Studies	0	0	0	0	0	0	0	0
E	Current Fire/Pest	7	Other	0	0	0	0	0	0	0	0
F	Habitat Supply	1	Planning/surveys/presc.	0	0	0	0	0	0	0	0
F	Habitat Supply	2	Site preparation	0	0	0	0	0	0	0	0
F	Habitat Supply	3	Planting	0	0	0	0	0	0	0	0
F	Habitat Supply	4	Brushing	0	0	0	0	0	0	0	0

Table Totals

				Five-Year Plan Goals (ha)					Annual Plan 2000/01		
				2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	Funding ($000)	Unit Cost ($)	Priority
F	Habitat Supply	5	Spacing	0	0	0	0	0	0	0	0
F	Habitat Supply	6	Pruning	0	0	0	0	0	0	0	0
F	Habitat Supply	7	Studies	0	0	0	0	0	0	0	0
F	Habitat Supply	8	Others	0	0	0	0	0	0	0	0
										Check totals:	
Totals				2,496	335	0	0	0	1,364,028	8,257	15

APPENDIX 19: Forest Renewal BC Enhanced Forestry Opportunity Plan for the VancouverRegion Planning Unit:

Treatment opportunities for the 2001/2002 fiscal year

	Schedule	Surveys		Prescription		Site Preparation		Planting		Brushing		Spacing		Pruning		Fertilization		Priotity	Comments
W.L.#	A or B	Ha.	Cost	Ha.	Cost	Ha.	Cost	Ha.	Cost	Ha.	Cost	Ha.	Cost	Ha.	Cost	Ha.	Cost		
Port McNeill																			
48																			
48																			
71																			
72	B													59.3	124,530			M	Second lift pruning
1552																			
1439																			
1788																			
South Island																			
20																			
22																			
24																			
31	B	2.0	300	2.0	300									2.0	$2,000			H	
31	B	4.0	300	4.0	500									4.0	$3,500			H	
1479	B									8.5	$6,800								
Squamish																			
15																			
40																			
49																			
27																			
28												4.0	6,000	4.0	8,000			H	Block 1 & 2
70																			
1666	B	25.5	892																Backlog
1684	B															59.1	22163		Backlog
1786																			
Queen Charlottes																			
161																			
162																			
1840	B													5.0	10,000			M	Pruning
1841																			
Mid-Coast																			
1863																			
Chilliwack																			
1	B											10.2	9,180	10.2	11,220				
37	B													10.7	11,770				
38	B	3.8	150	3.8	57														
43	B	6.0	180	6.0	90														
44	B	7.3	219	7.3	110											9.3	2,325		
45	B	3.4	150	3.4	51					4.0	2,400	13.6	12,240	13.6	14,960				
Sunshine Coast																			
10	B	3.5	250	3.5	100							3.5	4,000	3.5	4,550				
10	B	4.4	300	4.4	150							4.4	5,000	4.4	5,720				
46	B											7.0	8,400						
1674																			
Campbell River																			
18																			
25																			
26																			
42																			
82																			
85																			
1466																			
1610																			
1611																			
1639																			
1640																			
1641																			
1677																			
1678																			
1679																			
Totals		59.9	$2,741	34.4	$1,358			0.0	$0	12.5	$9,200	42.7	$44,820	116.7	$196,250	68.4	$24,488		
Estimated Total Cost for the Year for all Activities							$278,857												

Forest Renewal BC Enhance Forestry Opportunity Plan for the Vancouver Region Planning Unit:

Treatment opportunities for the 2000/2001 fiscal year

	Schedule	Surveys		Prescription		Site Preparation		Planting		Brushing		Spacing		Pruning		Fertilization		Priority	Comments
W L #	A or B	Ha.	Cost	Ha.	Cost	Ha.	Cost	Ha.	Cost	Ha.	Cost	Ha.	Cost	Ha.	Cost	Ha.	Cost		
Port McNeill																			
48	B											34.0	61,200					H	Cottonwood Spacing
48	B											14.9	22,350					M	Alder spacing
71																			No projects proposed
72	B																		see 2001 - 2002
1552	B	20.0	3,000	20.0	2,000	20.0	20,000											H	Trail Building 5km $10,000/site prep is conifer release
1439	B							13.0	20,000							13.0	10,000	H	Plant, browse protect and fertilize (backlog)
																			(decaging)
South Island																			
12				15.0	600											15.0	7,000		
14				1.5	600	1.5	1,000	1.5	1,500	1.5	1,500								
20				12.0	1,000									12.0	19,000				
22										3.3	3,000								Backlog SP in place
24																			
31																			
1614				100.0	1,000											100.0	29,000		
1479	B			9.0	500	3.0	3,000	11.5	19,700	8.5	6,800	1.5	1,200	1.5	3,375	9.0	4,500	H	Backlog NSR, Stand Mgt
Squamish																			
15	B											11.5	11,500	5.4	5,400			H	Backlog NSR
40	B											11.6	11,600	6.9	8,280			H	Backlog NSR
49	B																	M	Information not confirmed with licencee
27	B					3.0	9,000	3.0	4,500					6.0	12,000			H	Possible WRP/ streambank stabilization project
28	B											4.0	6,000					H	Work in top-up area
70																			
1606	B													3.6	2,610	39.5	14,813		
1684	B											78.5	43,088						
1786								25.5	20,400			59.1	42,847			39.0	14,625		No communications/possible spacing. NSR backlog per N
Queen Charlottes																			
161																		H	Trail Building 2km at $1500/km. A total of $3000
162																			No Communications
1840	B											5.0	10,000					H	Trail building, 3 km estimate
MidCoast																			
1863	B											10.0	20,000	10.0	18,000	70.0	28,000	H	Licencee contact, Hans Granander 250-949-8339
Chilliwack																			
1	B	19.6	2,000	19.6	1,000							22.6	20,340	22.4	24,640				
37	B											13.0	11,700	13.0	14,300				
38	B											14.0	12,600	14.0	15,400				
43	B											2.0	1,800	2.0	2,200				
44	B	9.3	900									9.3	8,370	9.3	10,230				
45	B	30.9	3,000	30.9	2,000					5.5	3,300	22.7	20,430	22.7	24,970				
Sunshine Coast																			
39	B							1.5	3,600										
46	B											9.0	5,200						
1674	B							4.3	4,550			4.3	5,160						
1674	B											8.7	10,000						
Campbell River																			
18	B	150.0	15,000	175.0	3,500							5.0	12,500						
25	B											10.0	25,000	10.0	50,000	15.0	10,500		
26	B	25.0	2,500	50.0	1,000							10.0	25,000	5.0	25,000	10.0	7,000		
42	B			25.0	500							15.0	37,500	15.0	75,000	15.0	10,500		
82	B	25.0	2,500	25.0	500							5.0	12,500			10.0	7,000		
85	B			25.0	500							10.0	25,000			10.0	7,000		
1466	B			30.0	600											20.0	14,000		
1610	B	25.0	2,500	25.0	500														
1611	B																		
1639	B															25.0	17,500		
1640	B	25.0	2,500	25.0	500							10.0	25,000						
1641	P			25.0	500											25.0	17,500		
1677	B	75.0	7,500	75.0	3,000							10.0	25,000	5.0	25,000	15.0	10,500		
1678	B	50.0	5,000	50.0	2,500														
1679	B	50.0	5,000	50.0	2,500														
1898	B											25.0	64,500	20.0	100,000	20.0	14,000		
Totals		504.8	51,400	788.0	24,800	27.5	33,000	60.3	74,250	18.8	14,600	435.7	577,385	183.8	435,405	450.5	223,438		
Estimated Total Cost for the Year for all Activities :							1,434,278												

7.0 FOREST PEST MANAGEMENT PLANNING

Forest vegetation management Pest Management Plans (PMPs) will replace Pesticide Use Permits during fiscal year 2000/2001. PMPs will be required for all forest vegetation management activities involving herbicides, including FRBC funded activities such as backlog reforestation. On Vancouver Island and the Mid-Coast, nine of an expected 27 PMPs are already at the application stage. Vancouver Island was one of two regions for which pilot PMP programs were developed with FRBC assistance. The Lower Mainland has one applicant developing a PMP with March 31, 2000, as the projected deadline after which all applications for authorizations will need to be part of a PMP. No PMPs are currently under development on the Queen Charlotte Islands.

Formal guidance documentation and policies are still under development, but draft documents prepared with FRBC support are being used in this transition period. The Pesticide Control [illegible] Regulations will be reviewed during 2000, to determine changes required to cover PMPs.

The pesticide data system, developed with FRBC assistance, for tracking authorized pesticide uses under permits and PMPs and other related administrative functions such as certification and licencing, will be on-line by October 31, 1999.

8.0 RMP CONTACT LIST

Regional Advisory Team:

FRBC	Ian Delisle	(P) 250-286-7767	(F) 250-286-7720	(E) Ian.Delisle@gems1.gov.bc.ca
MELP	Dick Heath	(P) 250-751-3139	(F) 250-751-3103	(E) dheath@nanaimo.env.gov.bc.ca
MOF	Dave Wetton	(P) 250-751-7263	(F) 250-751-7101	(E) David.Wetton@gems2.gov.bc.ca

Sustainable Harvest Team:

FRBC	Jim Davis	(P) 250-286-7773	(F) 250-286-7720	(E) Jim.Davis@gems9.gov.bc.ca
MELP	Grant Bracher	(P) 250-751-3221	(F) 250-751-3103	(E) gabrache@nanaimo.env.gov.bc.ca
MOF	Larry Sigurdson	(P) 250-751-7094	(F) 250-751-7101	(E) Larry.Sigurdson@gems6.gov.bc.ca

Enhanced Environmental Values:

FRBC	Jim DeHart	(P) 250-286-7775	(F) 250-286-7720	(E) Jim.DeHart@gems3.gov.bc.ca
MELP	Jim Standen	(P) 250-371-6251	(F) 250-371-6208	(E) Jim.Standen@gems3.gov.bc.ca
MOF	Dennis Collins	(P) 250-751-7121	(F) 250-751-7101	(E) Denis.Collins@gems4.gov.bc.ca
DFO	Mel Sheng	(P) 250-756-7016	(F) 250-756-7088	(E) shengm@dfo-mpo.gc.ca
FsRBC	Angus Mackay	(P) 604-660-0936	(F) 604-660-0938	(E) Angus.Mackay@gems5.gov.bc.ca

Strengthening Sustainable Forest Management:

FRBC	Don Closson	(P) 250-286-7772	(F) 250-286-7720	(E) Don.Closson@gems5.gov.bc.ca
MELP	Carla Lenihan	(P) 604-582-5336	(F) 604-930-7119	(E) clenihan@surrey.env.gov.bc.ca
MOF	Mike Connor	(P) 250-751-7128	(F) 250-751-7101	(E) Mike.Connor@gems6.gov.bc.ca

Other Contributors:

MOF (EEV)	Paul Marquis	(P) 250-7751-7051	(F) 250-751-7101	(E) Paul.Marquis@gems6.gov.bc.ca
MELP (EEV&SSFM)	Eva Hollingshead	(P) 250-751-3256	(F) 250-751-3103	(E) eholling@nanaimo.env.gov.bc.ca
MELP (General Assistant)	Marlena Stewart	(P) 250-751-3151	(F) 250-751-3103	(E) mlstewar@nanaimo.env.gov.bc.ca

MacMillan Bloedel

EEV & SH	Derek Ferguson	(P) 250-286-3323	(F) 250-286-3320	(E) derekf@island.net
SSFM	Diane Medves	(P) 250-755-3573	(F) 250-755-3550	(E) dr.medves@mbltd.com

International Forest Products Ltd.

EEV, SH & SSFM	Ian Robertson	(P) 250-286-4547	(F) 250-286-4598	(E) Ian_Robertson@interfor.com

Canadian Forest Products Ltd

EEV, SH & SSFM	Dave Harrison	(P) 604-661-5392	(F) 604-661-5381	(E) daveharrison@mail.canfor.ca

Western Forest Products Ltd.

EEV, SH & SSFM	Ken Hall	(P) 250-286-4120	(F) 250-286-3375	(E) KHall@westernforest.com

Timberwest Forests Limited

EEV, SH & SSFM	Norm Caldicott	(P) 604-431-6691	(F) 604-431-6680	(E) Norman_Caldicott@bc.sympatico.ca

Steelhead Society Habitat Restoration Corp.

EEV	Doug McCorquodale	(P) 604-684-6242	(F) 604-684-4745	(E) dougmccorquodale@watershedrestoration.com

Squamish Mills Ltd. (Soo TSA Co-operative)

EEV, SH & SSFM	Wayne Sakamot	(P) 604-894-6004	(F) 604-894-6516	(E) sakamoto@direct.ca

Cattermole Timber (Fraser TSA Co-operative)

EEV, SH & SSFM	Ted Holtby	(P) 604-823-6525	(F) 604-823-6541	(E) catrmole@direct.ca

Husby Forest Products Ltd.

EEV, SH & SSFM	Kathryn Willis	(P) 250-385-4711	(F) 250-385-2402	(E) cfmvic@cfm.bc.ca

9.0 COMMUNICATIONS LOG

The following pages detail the communications made among each of the three Strategic Objectives.

COMMUNICATIONS LOG - MELP SUSTAINABLE HARVEST

E-MAIL

July 28, 1999	International Forest Products Limited - Ian Robertson MacMillan Bloedel - Derek Ferguson Canadian Forest Products Limited - Dave Harrison Western Forest Products Limited - Ken Hall Timberwest Forest Products Limited - Norm Caldicott Squamish Mills Limited (Soo TSA Co-operative) - Wayne Sakamoto Cattermole Timber (Fraser TSA Co-operative) - Ted Holtby Husby Forest Products Limited - Kathryn Willis • Provided information to stakeholders on type of habitat enhancement projects which are a priority for MELP and who to contact at MELP for further information.
July 28, 1999	Timberwest Forest Products Limited - Norm Caldicott • Responded to request for further information.
August 9, 1999	International Forest Products Limited - Ian Robertson MacMillan Bloedel Limited - Derek Ferguson Canadian Forest Products Limited - Dave Harrison Western Forest Products Limited - Ken Hall Timberwest Forest Products Limited - Norm Caldicott Squamish Mills Limited (Soo TSA Co-operative) - Wayne Sakamoto Cattermole Timber (Fraser TSA Co-operative) - Ted Holtby Husby Forest Products Limited - Kathryn Willis • Reminded stakeholders of the type of habitat enhancement projects that are a priority for MELP and to please send the types of habitat projects they were interested in conducting and the total number of hectares to be treated for each type of enhancement.
August 8, 1999	Timberwest Forest Products - Norm Caldicott • Provided information on habitat enhancement projects that Timberwest Forest Products Limited proposed to conduct.
August 9, 1999	Western Forest Products - Kerry McGourlick, Ken Hall • Responded to request for further information.
August 19, 1999	International Forest Products Limited • Discussion of potential habitat enhancement projects.
August 31, 1999	MacMillan Bloedel Limited - Diane Medves, Derek Ferguson • Requested information on the habitat enhancement projects that MacMillan Bloedel Limited proposed to conduct.

September 10, 1999	Canadian Forest Products - John Deal • Requested information on the habitat enhancement projects that Canadian Forest Products Limited proposed to conduct.
September 10, 1999	MacMillan Bloedel Limited - Diane Medves, Derek Ferguson • Requested information on the habitat enhancement projects that MacMillan Bloedel Limited proposed to conduct.
September 17, 1999	Canadian Forest Products - John Deal • Requested information on the habitat enhancement projects that Canadian Forest Products Limited proposed to conduct.
September 17, 1999	MacMillan Bloedel Limited - Diane Medves, Derek Ferguson, Ron McLaughlin • Requested information on the habitat enhancement projects that MacMillan Bloedel Limited proposed to conduct.
September 21, 1999	Canadian Forest Products Limited - Alan Barber • Provided information on habitat enhancement projects that Canadian Forest Products Limited proposed to conduct.
September 17, 1999	MacMillan Bloedel Limited - Diane Medves, Derek Ferguson, Ron McLaughlin • Requested information on the habitat enhancement projects that MacMillan Bloedel Limited proposed to conduct.

TELEPHONE CONVERSATIONS

August 9, 1999	MacMillan Bloedel Limited - Rod Tysdal • Discussed the possibility of FRBC providing compensation for ungulate damage to crop trees and funding for seedling protection.
August 18, 1999	MacMillan Bloedel Limited - Derek Ferguson • Derek Feruson provided information on the types of habitat enhancement projects that MacMillan Bloedel was interested in conducting.
August 19, 1999	International Forest Products Limited - Ian Roberston • Phoned regarding the possibility of conducting habitat enhancement projects next fiscal year.
September 1, 1999	MacMillan Bloedel Limited - Derek Ferguson • Derek Ferguson phoned regarding habitat enhancement projects and possibility of arranging a meeting the following day.

September 17, 1999 Canadian Forest Products Limited - John Deal

- Requested estimates of costs associated with the habitat enhancement projects proposed by Canadian Forest Products Limited.

September 21, 1999 Canadian Forest Products Limited - Alan Barber

- Requested estimates of costs associated with the habitat enhancement projects proposed by Canadian Forest Products Limited.

MEETINGS

September 2, 1999 MacMillan Bloedel Limited - Derek Ferguson, Ron McLaughlin
Discussed MELP's priorities for habitat enhancement and projects that MacMillan Bloedel Limited was interested in conducting, and potential number of hectares to be treated.

September 9, 1999 International Forest Products Limited - Ian Robertson
MacMillan Bloedel - Derek Ferguson
Canadian Forest Products Limited - Dave Harrison
Western Forest Products Limited - Ken Hall
Timberwest Forest Products Limited - Norm Caldicott
Presented MELP's portion of the Sustainable Harvest section of the Resource Management Plan, answered questions, and gathered further information from the stakeholders.

Communication Log – Operational Inventory Program

Date	Name	Representing	Com. Method	Comments
07/26	M. Connor	MOF	e-mail	Request for inventory needs submissions sent out with data spreadsheet & instructions.
O7/30	G. Sommers	Interfor	e-mail	Provides requests for Fraser & Kingcome TSA's & TFL's 10 & 38.
08/04	Len Leroux	MOF, DCK	e-mail	Provides requests for Fraser TSA.
08/05	M.Connor	MOF	e-mail	Advised ML's to use MOF forms for MELP inventory requests also.
08/05	Clare Vincent	MOF, QCI	e-mail	Provides request for QCI TSA.
08/06	Mary-Pat Mathers	MOF, DCR	e-mail	Provides AOA/AIS requests for Campbell River District.
08/06	Julian Wake	MOF, QCI	e-mail	Provides AOA/AIS requests for QCI District.
08/06	Scott Mitchell	MOF, DPM	e-mail	Provides TEM & VRI requests for Kingcome TSA.
08/06	David Hobbs	MOF, DCK	e-mail	Provides AIS needs for Fraser TSA.
08/09	Cam Brady	MOF, DCR	e-mail	Provides recreation requests for Kingcome TSA.
08/09	David Cruikshank	MOF, DSI	e-mail	Provides requests for Arrowsmith TSA & Clayoquot Sound.
08/11	Norm Caldicott	TimberWest	e-mail	Provides requests for TFL's 46 & 47.
08/11	Carla Lenihan	MELP	e-mail	Reminds 4 MELP Regions of need for their input.
08/13	David Byng	Western Forest Products	e-mail	Provides requests for TFL's 6, 19 and all 5 blocks of TFL 25.
08/13	Carla Lenihan	MELP	e-mail	Provides Excel spreadsheet with MELP's projects for adding to MOF's Access database.
08/13	Carla Lenihan	MELP	e-mail	Forwards Canfor's & WFP's MELP inventory requests.
08/13	Carla Lenihan	MELP	e-mail	Forwards Region 1 & 6 fisheries requests.
08/17	Norm Caldicott	TimberWest	e-mail	Amends project requests for TFL's 46 & 47.
08/19	Nancy Colpitts	MOF, DMC	e-mail	Provides request for Mid-Coast TSA.
08/20	Phil Sondrup	MOF, DSQ	e-mail	Provides AOA/AIS requests for DSQ.
08/23	Diane Medves	MB	e-mail	Provides requests for TFL's 39 & 44.
08/25	Steve Waghorn	MOF, DSC	e-mail	Provides requests for Sunshine Coast TSA.
09/01	Warren Fox	MOF, all Districts	e-mail	Provides recreation project requests for all Districts in VFR.
09/09	Dave Bodak	MOF, Victoria	e-mail	Provides Provincial Access database.
09/09	FRBC, MOF, MELP, ML's	All players	Meeting	Meeting in Nanaimo to review & discuss OIP RMP progress to date.
09/10	Mike Connor	MOF/MELP	e-mail	Sends out draft OIP RMP for further review and input.
09/10	Pat Bryant	Canfor	e-mail	Provides requests for TFL 37.
09/13	Carla Lenihan	MELP	e-mail	Forwards Canfor, MB & Interfor MELP project requests.
09/14	Norm Caldicott	TimberWest	e-mail	Provides amended requests for TFL's

				46 & 47.
09/14	Diane Medves	MB	e-mail	Clarifies MB project requests.
09/14	David Byng	WFP	e-mail	Provides WFP's revised project requests.
09/20	Mike Connor	MOF	e-mail	Forwards 1st draft of written OIP RMP to Carla Lenihan for review & input.
09/22	Marlena Stewart	MELP	e-mail	Advises that MELP Region 1 is assembling full RMP document.
09/23	Carla Lenihan	MELP	e-mail	Due to budget limitations Carla suggests that MELP only recommend funding for existing projects.
09/24	Eva Hollingshead	MELP	e-mail	Agrees that funding of existing projects is top priority for MELP Region 1.
09/24	Dick Heath	MELP	e-mail	Agrees that funding existing projects is top priority.
09/30	Dave Wetton	MOF	e-mail	Delivers MOF's final RMP document & appendices to FRBC.

EEV RMP 00/01 Communications Log

From	To	Subject	Received
Collins, Denis A FOR:EX	Marquis, Paul J FOR:EX; Millward, Bill FOR:EX	FW: Two versions attached of latest WRP-RMP guidelines	Mon 07 Jun 99 15:42
Marquis, Paul J FOR:EX	Standen, Jim ENV:MS	Prioritization Exercise	Mon 14 Jun 99 11:00
Marquis, Paul J FOR:EX	Standen, Jim ENV:MS	Prioritization Exercise	Mon 14 Jun 99 11:03
Wetton, David T FOR:EX	Maxwell, Jim FOR:EX; Brand, Rick FOR:EX	FW: Two versions attached of latest WRP-RMP guidelines	Tue 15 Jun 99 13:45
Collins, Denis A FOR:EX	Marquis, Paul J FOR:EX	FW: FRBC Meeting with Licensees (RMPs)	Wed 30 Jun 99 08:32
Collins, Denis A FOR:EX	Millward, Bill FOR:EX; Marquis, Paul J FOR:EX	FW: Working draft of WRP component of RMP	Wed 30 Jun 99 11:17
Wetton, David T FOR:EX	Collins, Denis A FOR:EX; Marquis, Paul J FOR:EX; Millward, Bill FOR:EX	FW: RMP Guidelines Documents	Mon 05 Jul 99 13:08
Collins, Denis A FOR:EX	Wetton, David T FOR:EX	RE: RMP Base mapping	Wed 07 Jul 99 13:37
Wetton, David T FOR:EX	Denis Collins; Larry Sigurdson; Mike Connor; Paul Marquis	FW: Planning Direction	Thu 08 Jul 99 09:26
Wetton, David T FOR:EX	Denis Collins; Larry Sigurdson; Mike Connor; Paul Marquis	Distribution of Additional RMP Support Funding ($110,00)	Thu 08 Jul 99 10:03
Marquis, Paul J FOR:EX	Collins, Denis A FOR:EX	District WRP Contact List	Thu 08 Jul 99 13:26
Closson, Don FRBC:EX	Angus Mackay; Carla Lenihan; Dave Harrison; Dave Wetton; Dennis Collins; Derek Ferguson; Diane Medves; Dick Heath; Don Closson; Doug McLeod; Eva Hollingshead; Grant Bracher; Ian Delisle; Jim Davis; Jim DeHart; Jim Standen; Kathryn Willis; Ken Hall; Larry	RMP Contacts List:	Thu 08 Jul 99 14:50
Marquis, Paul J FOR:EX	Collins, Denis A FOR:EX	Draft e-mail to districts	Thu 08 Jul 99 15:33
Marquis, Paul J FOR:EX	Bouzane, Don; Brewster, Ken; Dice, Bob; Dunkley, Jim; Hardy, William; Murrell, Mike; Nalleweg, Norm; Oakley, Bruce; Pence, Mitch	Watershed Restoration Program Resource Management Plan 00/01	Fri 09 Jul 99 10:50
Wetton, David T FOR:EX	Denis Collins; Larry Sigurdson; Mike Connor; Paul Marquis	Action Plan and Communication Schedule	Tue 13 Jul 99 13:20
Wetton, David T FOR:EX	Denis Collins; Larry Sigurdson; Mike Connor; Paul Marquis	Examples of Regional Groundrules	Tue 13 Jul 99 13:21
Stewart, Marlena ENV:MS	Collins, Denis A FOR:EX; DeHart, Jim FRBC:EX; Marquis, Paul J FOR:EX; 'Sheng, Mel'; Standen, Jim ENV:MS	Conference Call Monday, July 19th...PARTICULARS and TIME CHANGE	Thu 15 Jul 99 09:52
Standen, Jim ENV:MS	Hollingshead, Eva ENV:MS; Stewart, Marlena ENV:MS; Douglas, Tanis L ENV:MS; CHAPMAN, Brian B ENV:MS; LARDEN, Troy P ENV:MS; Bate, Dan L FOR:EX; Collins, Denis A FOR:EX; Johnston, Doug A ELP:EX; DeHart, Jim FRBC:EX; Sager, John ELP:EX; Marquis, Paul J FOR:	Mapping	Thu 15 Jul 99 10:11
Standen, Jim ENV:MS	Hollingshead, Eva ENV:MS; Stewart, Marlena ENV:MS; Douglas, Tanis L ENV:MS; CHAPMAN, Brian B ENV:MS; LARDEN, Troy P ENV:MS; Bate, Dan L FOR:EX; Collins, Denis A FOR:EX; Johnston, Doug A ELP:EX; DeHart, Jim FRBC:EX; Sager, John ELP:EX; Marquis, Paul J FOR:	Map list	Fri 16 Jul 99 09:35
Collins, Denis A FOR:EX	Dave Harrison (EEV CFP); Derek Ferguson (EEV MB); Doug McCorquodale (EEV ShS); Ian Robertson (EEV IFP); Kathryn Willis (EEV HFP); Ken Hall (EEV WFP); Norm Caldicott (EEV TW); Ted Holtby (EEV CMT); Wayne Sakamoto (EEV SqM)	Resource Management Planning	Fri 16 Jul 99 14:20
Wetton, David T FOR:EX	Denis Collins; Larry Sigurdson; Mike Connor; Paul Marquis	Workloads	Fri 16 Jul 99 14:51
Stewart, Marlena ENV:MS	Collins, Denis A FOR:EX; DeHart, Jim FRBC:EX; Marquis, Paul J FOR:EX; 'Sheng, Mel'; Standen, Jim ENV:MS	Conference Call Minutes, July 19/99	Tue 20 Jul 99 10:44
Closson, Don FRBC:EX	Angus Mackay; Carla Lenihan; Dave Harrison; Dave Wetton; Denis Collins; Derek Ferguson; Diane Medves; Dick Heath; Don Closson; Doug McLeod; Eva Hollingshead; Grant Bracher; Ian Delisle; Jim Davis; Jim DeHart; Jim Standen; Kathryn Willis; Ken Hall; Larry S	Updated List:	Wed 21 Jul 99 15:42
Collins, Denis A FOR:EX	Standen, Jim ENV:MS	REVISED DSI - RMP UPDATES	Thu 22 Jul 99 14:26
Pence, Mitch FOR:EX	Collins, Denis A FOR:EX	RE: RMP Watersheds	Thu 22 Jul 99 14:34
Standen, Jim ENV:MS	Hollingshead, Eva ENV:MS; Stewart, Marlena ENV:MS; Douglas, Tanis L ENV:MS; CHAPMAN, Brian B ENV:MS; LARDEN, Troy P ENV:MS; Bate, Dan L FOR:EX; Collins, Denis A FOR:EX; Johnston, Doug A ELP:EX; DeHart, Jim FRBC:EX; Sager, John ELP:EX; Marquis, Paul J FOR:	RE: REVISED DSI - RMP UPDATES	Thu 22 Jul 99 16:08
Collins, Denis A FOR:EX	Delisle, Ian FRBC:EX	RE: Progress REPORTS	Fri 23 Jul 99 13:05
Standen, Jim ENV:MS	Hollingshead, Eva ENV:MS; Stewart, Marlena ENV:MS; Douglas, Tanis L ENV:MS; CHAPMAN, Brian B ENV:MS; LARDEN, Troy P ENV:MS; Bate, Dan L FOR:EX; Johnston, Doug A ELP:EX; Sager, John ELP:EX	Ranking of watersheds	Fri 23 Jul 99 13:34
Collins, Denis A FOR:EX	Standen, Jim ENV:MS	RE: Ranking of watersheds	Fri 23 Jul 99 15:12
Collins, Denis A FOR:EX	Marquis, Paul J FOR:EX; Wetton, David T FOR:EX	FW: Ranking of watersheds	Fri 23 Jul 99 15:35
Stewart, Marlena ENV:MS	Collins, Denis A FOR:EX; DeHart, Jim FRBC:EX; Marquis, Paul J FOR:EX; 'Sheng, Mel'; Standen, Jim ENV:MS	EEV RMP Team Conference Call Reminder...Friday, July 30th	Mon 26 Jul 99 09:10
Collins, Denis A FOR:EX	DeHart, Jim FRBC:EX	FW: FRBC Ranking	Wed 28 Jul 99 08:26
DeHart, Jim FRBC:EX	Collins, Denis A FOR:EX	RE: FRBC Ranking	Wed 28 Jul 99 09:15
Collins, Denis A FOR:EX	DeHart, Jim FRBC:EX	RE: FRBC Ranking	Wed 28 Jul 99 10:41

EEV RMP 00/01 Communications Log

From	To	Subject	Received
Standen, Jim ENV:MS	Hollingshead, Eva ENV:MS; Stewart, Marlena ENV:MS; Douglas, Tanis L ENV:MS; CHAPMAN, Brian B ENV:MS; LARDEN, Troy P ENV:MS; Bate, Dan L FOR:EX; Johnston, Doug A ELP:EX; Sager, John ELP:EX	Urgently required data	Fri 30 Jul 99 14:39
Collins, Denis A FOR:EX	Marquis, Paul J FOR:EX; Wetton, David T FOR:EX	EEV RMP status	Fri 30 Jul 99 16:18
Collins, Denis A FOR:EX	Bouzane, Don FOR:OV; Dice, Bob FOR:EX; Dunkley, Jim R FOR:EX; Hardy, William FOR:EX; Murrell, Mike R FOR:EX; Nalleweg, Norm FOR:EX; Oakley, Bruce T FOR:EX; Pence, Mitch FOR:EX; Harborne, Derrick FOR:EX; Dave Harrison (EEV CFP); Derek Ferguson (EEV MB); Do	FRBC Enhancing Environmental Values component RMP	Fri 30 Jul 99 16:24
Hollingshead, Eva ENV:MS	Standen, Jim ENV:MS; Stewart, Marlena ENV:MS; Douglas, Tanis L ENV:MS; CHAPMAN, Brian B ENV:MS; LARDEN, Troy P ENV:MS; Bate, Dan L FOR:EX; Johnston, Doug A ELP:EX; Sager, John ELP:EX	We are unable to meet the EEV deadlines/Region 1	Tue 03 Aug 99 08:56
Standen, Jim ENV:MS	Hollingshead, Eva ENV:MS; Stewart, Marlena ENV:MS; Douglas, Tanis L ENV:MS; CHAPMAN, Brian B ENV:MS; LARDEN, Troy P ENV:MS; Bate, Dan L FOR:EX; Johnston, Doug A ELP:EX; Sager, John ELP:EX	RE: We are unable to meet the EEV deadlines/Region 1	Tue 03 Aug 99 11:51
Wetton, David T FOR:EX	Denis Collins; Larry Sigurdson; Mike Connor; Paul Marquis	FW: RMP Guidelines Documents and Data Base	Tue 03 Aug 99 18:15
Collins, Denis A FOR:EX	Wetton, David T FOR:EX; Millward, Bill FOR:EX	FW: We are unable to meet the EEV deadlines/Region 1	Tue 03 Aug 99 21:38
Collins, Denis A FOR:EX	Marquis, Paul J FOR:EX	FW: FRBC Enhancing Environmental Values component RMP	Tue 03 Aug 99 21:50
Collins, Denis A FOR:EX	Wetton, David T FOR:EX	FW: conference call	Tue 03 Aug 99 22:00
Collins, Denis A FOR:EX	Wetton, David T FOR:EX	FW: We are unable to meet the EEV deadlines/Region 1	Tue 03 Aug 99 22:05
Collins, Denis A FOR:EX	Wetton, David T FOR:EX	RE: RMP Guidelines Documents and Data Base	Tue 03 Aug 99 22:35
Wetton, David T FOR:EX	Denis Collins; Larry Sigurdson; Mike Connor; Paul Marquis	FW: conference call	Wed 04 Aug 99 13:22
Murrell, Mike R FOR:EX	Marquis, Paul J FOR:EX; Collins, Denis A FOR:EX; Wetton, David T FOR:EX	RE: RMP Category Guide - Corrected!	Wed 04 Aug 99 16:30
Collins, Denis A FOR:EX	Wetton, David T FOR:EX	FW: Draft Ground Rules	Wed 04 Aug 99 21:25
Wetton, David T FOR:EX	Collins, Denis A FOR:EX	RE: Draft Ground Rules	Thu 05 Aug 99 08:59
Standen, Jim ENV:MS	Wetton, David T FOR:EX	DRAFT ranked list	Sat 07 Aug 99 20:54
Collins, Denis A FOR:EX	Marquis, Paul J FOR:EX	FW: August 12 meeting	Sat 07 Aug 99 22:02
Standen, Jim ENV:MS	Wetton, David T FOR:EX	Pacific EEV Watershed List Draft #2	Sun 08 Aug 99 21:10
Hollingshead, Eva ENV:MS	Standen, Jim ENV:MS; Wetton, David T FOR:EX	RE: DRAFT ranked list	Mon 09 Aug 99 08:13
Wetton, David T FOR:EX	Harborne, Derrick FOR:EX	RE: EEV, RMP	Mon 09 Aug 99 08:36
Standen, Jim ENV:MS	Hollingshead, Eva ENV:MS; Wetton, David T FOR:EX	RE: DRAFT ranked list	Mon 09 Aug 99 08:41
Stewart, Marlena ENV:MS	Hollingshead, Eva ENV:MS; Wetton, David T FOR:EX; Standen, Jim ENV:MS	RE: DRAFT ranked list	Mon 09 Aug 99 12:12
Standen, Jim ENV:MS	Marquis, Paul J FOR:EX	FW: August 12 meeting	Mon 09 Aug 99 13:46
Wells, Kenyon ELP:EX	Standen, Jim ENV:MS; Marquis, Paul J FOR:EX	RE: August 12 meeting	Mon 09 Aug 99 13:50
Delisle, Ian FRBC:EX	Standen, Jim ENV:MS; Marquis, Paul J FOR:EX; Heath, Dick ENV:MS	RE: August 12 meeting	Mon 09 Aug 99 13:57
Hollingshead, Eva ENV:MS	Standen, Jim ENV:MS; Wetton, David T FOR:EX	RE: Pacific EEV Watershed List Draft #2	Tue 10 Aug 99 12:58
Standen, Jim ENV:MS	Hollingshead, Eva ENV:MS; Wetton, David T FOR:EX	RE: Pacific EEV Watershed List Draft #2	Tue 10 Aug 99 13:48
Marquis, Paul J FOR:EX	Dunkley, Jim R FOR:EX	MELP Ratings	Tue 10 Aug 99 14:37
Marquis, Paul J FOR:EX	Dunkley, Jim R FOR:EX	MELP Ratings	Wed 11 Aug 99 10:33
Marquis, Paul J FOR:EX	Bouzane, Don; Brewster, Ken; Dice, Bob; Dunkley, Jim; Hardy, William; Murrell, Mike; Nalleweg, Norm; Oakley, Bruce; Pence, Mitch; Caldicott, Norm; Ferguson, Derek; Hall, Ken; Harrison, Dave; Holtby, Ted; McCorquodale, Doug; Robertson, Ian; Sakamoto, Wayne	WRP RMP	Wed 11 Aug 99 13:30
Hollingshead, Eva ENV:MS	Standen, Jim ENV:MS; Wetton, David T FOR:EX	More input from MoELP Region 1...EEV Spreadsheet	Wed 11 Aug 99 13:34
Standen, Jim ENV:MS	Hollingshead, Eva ENV:MS; Wetton, David T FOR:EX	RE: More input from MoELP Region 1...EEV Spreadsheet	Thu 12 Aug 99 08:17
Nalleweg, Norm FOR:EX	Marquis, Paul J FOR:EX	RE: WRP RMP	Thu 12 Aug 99 08:18
Marquis, Paul J FOR:EX	Nalleweg, Norm FOR:EX	RE: WRP RMP	Thu 12 Aug 99 08:57
Standen, Jim ENV:MS	Hollingshead, Eva ENV:MS; Wetton, David T FOR:EX	RE: More input from MoELP Region 1...EEV Spreadsheet	Thu 12 Aug 99 09:01
Standen, Jim ENV:MS	Hollingshead, Eva ENV:MS; Wetton, David T FOR:EX	RE: Pacific EEV Watershed List Draft #2	Thu 12 Aug 99 14:45
Standen, Jim ENV:MS	Hollingshead, Eva ENV:MS; Wetton, David T FOR:EX	RE: More input from MoELP Region 1...EEV Spreadsheet	Thu 12 Aug 99 15:26
Standen, Jim ENV:MS	Hollingshead, Eva ENV:MS; Wetton, David T FOR:EX	RE: More input from MoELP Region 1...EEV Spreadsheet	Thu 12 Aug 99 15:30
Dunkley, Jim R FOR:EX	Marquis, Paul J FOR:EX; Collins, Denis A FOR:EX	Port McNeill WRP RMP	Thu 12 Aug 99 15:47
Hollingshead, Eva ENV:MS	Standen, Jim ENV:MS; Wetton, David T FOR:EX	RE: More input from MoELP Region 1...EEV Spreadsheet	Thu 12 Aug 99 16:10
Marquis, Paul J FOR:EX	'Clark'	EEV RMP tempate	Thu 12 Aug 99 16:30
Wetton, David T FOR:EX	Denis Collins; Larry Sigurdson; Mike Connor; Paul Marquis	FW: RMP Access Data Base	Fri 13 Aug 99 11:47

EEV RMP 00/01 Communications Log

From	To	Subject	Received
Nalleweg, Norm FOR:EX	Marquis, Paul J FOR:EX	RE: WRP RMP	Fri 13 Aug 99 16:14
Marquis, Paul J FOR:EX	Nalleweg, Norm FOR:EX	RE: WRP RMP	Fri 13 Aug 99 16:25
Nalleweg, Norm FOR:EX	Marquis, Paul J FOR:EX	RE: WRP RMP	Fri 13 Aug 99 16:30
DeHart, Jim FRBC:EX	Marquis, Paul J FOR:EX; Collins, Denis A FOR:EX; Standen, Jim ENV:MS	MYA Holders Input - EEV	Mon 16 Aug 99 11:09
Pence, Mitch FOR:EX	Marquis, Paul J FOR:EX	RMP Table/Investment Table	Mon 16 Aug 99 11:48
Wetton, David T FOR:EX	Collins, Denis A FOR:EX; Marquis, Paul J FOR:EX	FW: MYA Holders Input - EEV	Mon 16 Aug 99 13:22
Marquis, Paul J FOR:EX	Collins, Denis A FOR:EX; Standen, Jim ENV:MS; DeHart, Jim FRBC:EX	RE: MYA Holders Input - EEV	Mon 16 Aug 99 14:19
DeHart, Jim FRBC:EX	Marquis, Paul J FOR:EX	RE: MYA Holders Input - EEV	Mon 16 Aug 99 15:47
Marquis, Paul J FOR:EX	DeHart, Jim FRBC:EX	RE: MYA Holders Input - EEV	Mon 16 Aug 99 16:05
Murrell, Mike R FOR:EX	Marquis, Paul J FOR:EX	Squamish Resource Management Plan - 00/01	Tue 17 Aug 99 11:30
Murrell, Mike R FOR:EX	'Marion Blank (for M&B)'; 'Derek Ferguson (Geofor)'; 'Ken Hall (Western Forest Products)'; 'Gord Prescott (Interfor)'; 'Tom Cole (RichPly)'; 'Wayne Sakamoto (Squamish Mills, Cartel)'; 'Bernice Patterson (CRB Logging)'	Resource Management Plan for Squamish	Tue 17 Aug 99 13:36
Standen, Jim ENV:MS	Hollingshead, Eva ENV:MS; Stewart, Marlena ENV:MS; Douglas, Tanis L ENV:MS; CHAPMAN, Brian B ENV:MS; LARDEN, Troy P ENV:MS; Bate, Dan L FOR:EX; Collins, Denis A FOR:EX; Johnston, Doug; DeHart, Jim FRBC:EX; Sager, John ELP:EX; Marquis, Paul J FOR:EX; Sheng	FW: WSRP...	Tue 17 Aug 99 15:06
Marquis, Paul J FOR:EX	'Jancsik, Charlie'	WRP RMP planning Document	Tue 17 Aug 99 16:05
Harborne, Derrick FOR:EX	Marquis, Paul J FOR:EX	DSC RMP	Wed 18 Aug 99 09:48
Nalleweg, Norm FOR:EX	Marquis, Paul J FOR:EX	WRP RMP Tables	Wed 18 Aug 99 10:43
Marquis, Paul J FOR:EX	Connor, Mike FOR:EX	WRP RMP Mapping	Wed 18 Aug 99 11:04
Ostashek, Lynda FOR:EX	Marquis, Paul J FOR:EX	FW: FRBC Enhancing Environmental Values component RMP	Wed 18 Aug 99 11:06
Victoria Resource Group	Marquis, Paul J FOR:EX	RMP EEV Requirements	Wed 18 Aug 99 12:01
Hardy, William FOR:EX	Marquis, Paul J FOR:EX	EEV RMP	Wed 18 Aug 99 13:45
Marquis, Paul J FOR:EX	Hardy, William FOR:EX	RE: EEV RMP	Wed 18 Aug 99 14:00
Jancsik, Charlie	Marquis, Paul J FOR:EX	RE: WRP RMP planning Document	Wed 18 Aug 99 14:02
Marquis, Paul J FOR:EX	Murrell, Mike R FOR:EX	EEV RMP	Wed 18 Aug 99 14:16
Marquis, Paul J FOR:EX	'Ferguson, Derek'	WRP Investment Plans	Thu 19 Aug 99 11:00
Warren Warttig	Marquis, Paul J FOR:EX	RMP table	Thu 19 Aug 99 11:13
Marquis, Paul J FOR:EX	'Holtby, Ted'; Oakley, Bruce T FOR:EX; Walker, Doug FOR:EX; 'Sakamoto, Wayne'; 'Caldicott, Norm'	WRP RMP	Thu 19 Aug 99 14:53
Walker, Doug FOR:EX	Marquis, Paul J FOR:EX	RE: WRP RMP	Thu 19 Aug 99 15:16
Walker, Doug FOR:EX	Sigurdson, Larry FOR:EX; Marquis, Paul J FOR:EX; Luscombe, Bill FOR:EX	FW: MB RMP	Thu 19 Aug 99 15:28
Standen, Jim ENV:MS	Collins, Denis A FOR:EX; DeHart, Jim FRBC:EX; Marquis, Paul J FOR:EX; Sheng, Mel	EEV Pacific - Final working draft of watershed list	Fri 20 Aug 99 10:52
Murrell, Mike R FOR:EX	Marquis, Paul J FOR:EX	FW: Resource Management Plan for Squamish	Mon 23 Aug 99 09:39
Murrell, Mike R FOR:EX	Marquis, Paul J FOR:EX	Revised Squamish RMP	Mon 23 Aug 99 09:54
Patty Roussin	Marquis, Paul J FOR:EX	RMPs - Watershed Restoration	Mon 23 Aug 99 12:14
Wetton, David T FOR:EX	Denis Collins; Larry Sigurdson; Mike Connor; Paul Marquis	RMP Support Funding	Mon 23 Aug 99 16:28
Marquis, Paul J FOR:EX	Collins, Denis A FOR:EX	WRP RMP	Tue 24 Aug 99 08:40
Dave Marquis	Marquis, Paul J FOR:EX	TimberWest RMP's for South Island, Campbell River and Port McNeill	Tue 24 Aug 99 11:47
Ken Hall	Marquis, Paul J FOR:EX; Bouzane, Don FOR:OV; Dice, Bob FOR:EX; Dunkley, Jim R FOR:EX; Pence, Mitch FOR:EX; Murrell, Mike R FOR:EX; Walker, Doug FOR:EX; York, Sarah ENV:MS	WFP RMP 99 TFL	Tue 24 Aug 99 17:40
Collins, Denis A FOR:EX	Dave Harrison (EEV CFP); Derek Ferguson (EEV MB); Doug McCorquodale (EEV ShS); Ian Robertson (EEV IFP); Kathryn Willis (EEV HFP); Ken Hall (EEV WFP); Norm Caldicott (EEV TW); Ted Holtby (EEV CMT); Wayne Sakamoto (EEV SqM); Bruce Oakley; Doug Walker; Jim D	FW: WRP Map and File	Thu 26 Aug 99 15:10
Collins, Denis A FOR:EX	Wetton, David T FOR:EX; Marquis, Paul J FOR:EX	mid coast rmp	Thu 26 Aug 99 16:06
Stewart, Marlena ENV:MS	Collins, Denis A FOR:EX; DeHart, Jim FRBC:EX; Marquis, Paul J FOR:EX; 'Sheng, Mel'; Standen, Jim ENV:MS	REMINDER OF EEV TEAM CONFERENCE CALL on Monday...	Fri 27 Aug 99 10:47
DeHart, Jim FRBC:EX	Stewart, Marlena ENV:MS; Collins, Denis A FOR:EX; Marquis, Paul J FOR:EX; 'Sheng, Mel'; Standen, Jim ENV:MS	RE: REMINDER OF EEV TEAM CONFERENCE CALL on Monday...	Fri 27 Aug 99 10:51
Wetton, David T FOR:EX	Denis Collins; Larry Sigurdson; Mike Connor; Paul Marquis	FW: Draft Update of the Operational Guidebook for Review	Fri 27 Aug 99 14:41
Wetton, David T FOR:EX	Denis Collins; Larry Sigurdson; Mike Connor; Paul Marquis	FW: Remaining Chapters for Operational Guidebook	Fri 27 Aug 99 14:42
Stewart, Marlena ENV:MS	Collins, Denis A FOR:EX; DeHart, Jim FRBC:EX; Marquis, Paul J FOR:EX; 'Sheng, Mel'; Standen, Jim ENV:MS	Rescheduling of Conference Call...	Mon 30 Aug 99 11:34
Marquis, Paul J FOR:EX	Stewart, Marlena ENV:MS	RE: Rescheduling of Conference Call...	Mon 30 Aug 99 11:43

EEV RMP 00/01 Communications Log

From	To	Subject	Received
Collins, Denis A FOR:EX	Marquis, Paul J FOR:EX	FW: WRP Map and File	Mon 30 Aug 99 12:41
Collins, Denis A FOR:EX	Marquis, Paul J FOR:EX	FW: WRP Map and File	Tue 31 Aug 99 08:46
Marquis, Paul J FOR:EX	'Hall, Ken'	FW: FRBC Enhancing Environmental Values component RMP	Tue 31 Aug 99 08:52
Luscombe, Bill FOR:EX	Marquis, Paul J FOR:EX	FW: RMP Meetings Sept 8th and 9th	Tue 31 Aug 99 09:56
Marquis, Paul J FOR:EX	Bouzane, Don FOR:OV	RMP Planning Document	Tue 31 Aug 99 11:08
Oakley, Bruce T FOR:EX	Marquis, Paul J FOR:EX	WRP Spreadsheet	Tue 31 Aug 99 11:17
Collins, Denis A FOR:EX	Marquis, Paul J FOR:EX	FW: WRP Map and File	Tue 31 Aug 99 13:22
Yule, Darcy FOR:EX	Marquis, Paul J FOR:EX	WRP rmp	Tue 31 Aug 99 14:01
Stewart, Marlena ENV:MS	Collins, Denis A FOR:EX; DeHart, Jim FRBC:EX; Marquis, Paul J FOR:EX; 'Sheng, Mel'; Standen, Jim ENV:MS; Stewart, Marlena ENV:MS	RE: Rescheduling of Conference Call...	Tue 31 Aug 99 14:33
Marquis, Paul J FOR:EX	Stewart, Marlena ENV:MS	RE: Rescheduling of Conference Call...	Tue 31 Aug 99 14:39
Marquis, Paul J FOR:EX	Bouzane, Don; Brewster, Ken; Dice, Bob; Dunkley, Jim; Hardy, William; Murrell, Mike; Nalleweg, Norm; Oakley, Bruce; Pence, Mitch	WRP RMP Update	Tue 31 Aug 99 15:09
Marquis, Paul J FOR:EX	Bouzane, Don; Brewster, Ken; Dice, Bob; Dunkley, Jim; Hardy, William; Murrell, Mike; Nalleweg, Norm; Oakley, Bruce; Pence, Mitch	WRP RMP Update	Tue 31 Aug 99 15:09
Marquis, Paul J FOR:EX	Goretzky, Shane FOR:OV	FW: RMP Planning Document	Tue 31 Aug 99 16:05
Nalleweg, Norm FOR:EX	Marquis, Paul J FOR:EX	RE: WRP RMP Update	Tue 31 Aug 99 16:29
Marquis, Paul J FOR:EX	Bouzane, Don FOR:OV	FW: FRBC Enhancing Environmental Values component RMP	Tue 31 Aug 99 16:30
Stewart, Marlena ENV:MS	Collins, Denis A FOR:EX; DeHart, Jim FRBC:EX; Marquis, Paul J FOR:EX; 'Sheng, Mel'; Standen, Jim ENV:MS	EEV Conference Call RE-BOOKED!	Tue 31 Aug 99 16:33
Marquis, Paul J FOR:EX	Nalleweg, Norm FOR:EX	RE: WRP RMP Update	Wed 01 Sep 99 08:48
Luscombe, Bill FOR:EX	Marquis, Paul J FOR:EX	RE: WRP Funding for DCK	Wed 01 Sep 99 09:22
Marquis, Paul J FOR:EX	Standen, Jim ENV:MS	WRP Mapping Errors	Wed 01 Sep 99 14:31
Standen, Jim ENV:MS	Marquis, Paul J FOR:EX	RE: WRP Mapping Errors	Thu 02 Sep 99 09:09
Marquis, Paul J FOR:EX	Bouzane, Don FOR:OV	WRP RMP	Thu 02 Sep 99 10:21
Walker, Doug FOR:EX	Marquis, Paul J FOR:EX	DMC WRP PLAN	Thu 02 Sep 99 15:19
Dice, Bob FOR:EX	Marquis, Paul J FOR:EX	DWLL - RMP	Thu 02 Sep 99 15:34
Marquis, Paul J FOR:EX	Dice, Bob FOR:EX	RE: DWLL - RMP	Thu 02 Sep 99 15:44
Nalleweg, Norm FOR:EX	Marquis, Paul J FOR:EX	Investment Plans	Thu 02 Sep 99 16:05
Marquis, Paul J FOR:EX	Nalleweg, Norm FOR:EX	FW: Investment Plans	Thu 02 Sep 99 16:10
Marquis, Paul J FOR:EX	Standen, Jim ENV:MS	Mapping Error	Thu 02 Sep 99 16:23
Wetton, David T FOR:EX	Denis Collins; Larry Sigurdson; Mike Connor; Paul Marquis	Progress on RMP documents etc.	Fri 03 Sep 99 16:12
Stewart, Marlena ENV:MS	Collins, Denis A FOR:EX; DeHart, Jim FRBC:EX; Marquis, Paul J FOR:EX; 'Sheng, Mel'; Standen, Jim ENV:MS; Stewart, Marlena ENV:MS	Conference Call Reminder...TODAY AT 11:00...	Tue 07 Sep 99 08:41
Stewart, Marlena ENV:MS	Delisle, Ian FRBC:EX	RAT Meeting Room Changed for Wednesday...	Tue 07 Sep 99 08:48
Standen, Jim ENV:MS	Stewart, Marlena ENV:MS; Delisle, Ian FRBC:EX	RE: RAT Meeting Room Changed for Wednesday...	Tue 07 Sep 99 08:53
Collins, Denis A FOR:EX	Marquis, Paul J FOR:EX	FW: RAT Meeting Room Changed for Wednesday...	Tue 07 Sep 99 09:51
Marquis, Paul J FOR:EX	Collins, Denis A FOR:EX	RE: RAT Meeting Room Changed for Wednesday...	Tue 07 Sep 99 10:00
Lenihan, Carla B ENV:MS	Delisle, Ian FRBC:EX; Stewart, Marlena ENV:MS	RE: RAT Meeting Room Changed for Wednesday...	Tue 07 Sep 99 13:42
Collins, Denis A FOR:EX	Marquis, Paul J FOR:EX	FW: RMPs	Wed 08 Sep 99 11:36
Harborne, Derrick FOR:EX	Marquis, Paul J FOR:EX	Sunshine Coast Investment Plan	Wed 08 Sep 99 15:20
Henry, Dave J FOR:EX	Marquis, Paul J FOR:EX	From Don Bouzane	Wed 08 Sep 99 16:09
Marquis, Paul J FOR:EX	Bouzane, Don; Brewster, Ken; Dice, Bob; Dunkley, Jim; Hardy, William; Murrell, Mike; Nalleweg, Norm; Oakley, Bruce; Pence, Mitch	WRP RMP	Thu 09 Sep 99 15:00
Marquis, Paul J FOR:EX	Bouzane, Don FOR:OV	FW: WRP RMP	Thu 09 Sep 99 15:49
Marquis, Paul J FOR:EX	Standen, Jim ENV:MS	WRP Map	Thu 09 Sep 99 16:06
Wetton, David T FOR:EX	Denis Collins; Larry Sigurdson; Mike Connor; Paul Marquis	FW: RMP Access Database	Thu 09 Sep 99 16:07
Wetton, David T FOR:EX	Denis Collins; Larry Sigurdson; Mike Connor; Paul Marquis	Follow up to RMP Meeting with Licensees	Fri 10 Sep 99 08:40
Wetton, David T FOR:EX	Luscombe, Bill FOR:EX; Denis Collins; Larry Sigurdson; Mike Connor; Paul Marquis	FW: Delivery Mechanism Task Force	Fri 10 Sep 99 09:17
Bronstein, Ron FRBC:EX	Marquis, Paul J FOR:EX	Watershed Excell List	Fri 10 Sep 99 10:19
Nalleweg, Norm FOR:EX	Marquis, Paul J FOR:EX	Table #2	Fri 10 Sep 99 10:24
Nalleweg, Norm FOR:EX	Marquis, Paul J FOR:EX	FW: Community Watersheds	Fri 10 Sep 99 15:11
Marquis, Paul J FOR:EX	Bronstein, Ron FRBC:EX	RE: Watershed Excell List	Mon 13 Sep 99 08:51
Marquis, Paul J FOR:EX	Henry, Dave J FOR:EX; Dyble, Daniel FOR:OV	RE: WRP RMP	Mon 13 Sep 99 10:43
Standen, Jim ENV:MS	Marquis, Paul J FOR:EX	Text for fish/water part of RMP	Mon 13 Sep 99 10:48
Marquis, Paul J FOR:EX	Henry, Dave J FOR:EX	RE: WRP RMP	Mon 13 Sep 99 11:39

EEV RMP 00/01 Communications Log

From	To	Subject	Received
Standen, Jim ENV:MS	Marquis, Paul J FOR:EX	FW: FTP server...	Mon 13 Sep 99 11:52
Marquis, Paul J FOR:EX	Collins, Denis A FOR:EX	WRP Database	Mon 13 Sep 99 12:19
Marquis, Paul J FOR:EX	Bouzane, Don; Brewster, Ken; Dice, Bob; Dunkley, Jim; Hardy, William; Murrell, Mike; Nalleweg, Norm; Oakley, Bruce; Pence, Mitch	WRP RMP Map	Mon 13 Sep 99 13:06
Marquis, Paul J FOR:EX	Nalleweg, Norm FOR:EX	RE: WRP RMP Map	Mon 13 Sep 99 13:13
Nalleweg, Norm FOR:EX	Marquis, Paul J FOR:EX	RMP Table#2	Mon 13 Sep 99 13:26
Pence, Mitch FOR:EX	Marquis, Paul J FOR:EX	RMP Table Corrections	Mon 13 Sep 99 13:39
Marquis, Paul J FOR:EX	'Hall, Ken'	WRP RMP	Mon 13 Sep 99 14:03
Marquis, Paul J FOR:EX	Caldicott, Norm; Ferguson, Derek; Hall, Ken; Harrison, Dave; Holtby, Ted; McCorquodale, Doug; Robertson, Ian; Sakamoto, Wayne; Willis, Kathryn	WRP RMP	Mon 13 Sep 99 14:15
Heath, Dick ENV:MS	Bracher, Grant ENV:MS; Collins, Denis A FOR:EX; Hollingshead, Eva ENV:MS; Lenihan, Carla B ENV:MS; Marquis, Paul J FOR:EX; Standen, Jim ENV:MS; Wetton, David T FOR:EX; Sigurdson, Larry FOR:EX; Jex, Bill A FOR:EX; Connor, Mike FOR:EX	RE: RAT Meeting Room Changed for Wednesday...	Mon 13 Sep 99 17:10
Marquis, Paul J FOR:EX	Husted, Lynn D FRBC:EX	EEV RMP Category Flowchart	Tue 14 Sep 99 09:59
Oakley, Bruce T FOR:EX	Marquis, Paul J FOR:EX	Table 2, Watershed Restoration Program, Resource Management Plan	Tue 14 Sep 99 12:53
Marquis, Paul J FOR:EX	Nalleweg, Norm FOR:EX	RE: RMP Table#2	Tue 14 Sep 99 14:09
Victoria Resource Group	Marquis, Paul J FOR:EX	Updated EEV	Tue 14 Sep 99 14:36
Jancsik, Charlie	Marquis, Paul J FOR:EX	RMP Update	Tue 14 Sep 99 15:31
Marquis, Paul J FOR:EX	'Jancsik, Charlie'	RE: RMP Update	Tue 14 Sep 99 15:38
Jancsik, Charlie	Marquis, Paul J FOR:EX	FW: RMP Update	Tue 14 Sep 99 15:42
Dunkley, Jim R FOR:EX	Marquis, Paul J FOR:EX	Updated RMP Table	Tue 14 Sep 99 15:43
Ken Hall	Marquis, Paul J FOR:EX	WFP WRP RMP Revision #1	Wed 15 Sep 99 09:45
Marquis, Paul J FOR:EX	Standen, Jim ENV:MS	FW: WFP WRP RMP Revision #1	Wed 15 Sep 99 10:20
Sheng, Mel	Marquis, Paul J FOR:EX	RMP list	Wed 15 Sep 99 20:36
Marquis, Paul J FOR:EX	Standen, Jim ENV:MS	FW: RMP list	Thu 16 Sep 99 08:53
Marquis, Paul J FOR:EX	Standen, Jim ENV:MS	RMP Map	Thu 16 Sep 99 11:03
Nalleweg, Norm FOR:EX	Marquis, Paul J FOR:EX	WRP RMP Table #2	Thu 16 Sep 99 13:29
Marquis, Paul J FOR:EX	Collins, Denis A FOR:EX	Draft WRP RMP	Thu 16 Sep 99 14:20
Collins, Denis A FOR:EX	Marquis, Paul J FOR:EX	comments - I'll call up now	Thu 16 Sep 99 15:10
Marquis, Paul J FOR:EX	Standen, Jim ENV:MS	Draft WRP RMP	Thu 16 Sep 99 15:56
Brent Cormack	Marquis, Paul J FOR:EX		Thu 16 Sep 99 17:23
Hollingshead, Eva ENV:MS	Wetton, David T FOR:EX; Davis, Jim FRBC:EX; DeHart, Jim FRBC:EX; Closson, Don FRBC:EX; Sigurdson, Larry FOR:EX; Collins, Denis A FOR:EX; Sigurdson, Larry FOR:EX; Heath, Dick ENV:MS; Stewart, Marlena ENV:MS; Bracher, Grant ENV:MS; McKinnon, Debbie ENV:MS;	IMPORTANT: Please fill in RMP Amalgamation Plan Spreadsheet!	Fri 17 Sep 99 10:26
Marquis, Paul J FOR:EX	Standen, Jim ENV:MS	MB revisions to Table 2	Fri 17 Sep 99 12:57
Marquis, Paul J FOR:EX	Hollingshead, Eva ENV:MS	RE: IMPORTANT: Please fill in RMP Amalgamation Plan Spreadsheet!	Fri 17 Sep 99 13:44
Hollingshead, Eva ENV:MS	Hollingshead, Eva ENV:MS; Heath, Dick ENV:MS; Bracher, Grant ENV:MS; Collins, Denis A FOR:EX; Lenihan, Carla B ENV:MS; Marquis, Paul J FOR:EX; Standen, Jim ENV:MS; Wetton, David T FOR:EX; Sigurdson, Larry FOR:EX; Jex, Bill A FOR:EX; Connor, Mike FOR:EX; D	RE: TABLE OF CONTENTS..... Pacific RMP ...Please have a look at and comment	Fri 17 Sep 99 15:32
Wetton, David T FOR:EX	Denis Collins; Larry Sigurdson; Mike Connor; Paul Marquis	FW: RAT Meeting Room Changed for Wednesday...	Mon 20 Sep 99 08:51
Standen, Jim ENV:MS	Marquis, Paul J FOR:EX	RE: RMP Map	Mon 20 Sep 99 13:42
Collins, Denis A FOR:EX	Millward, Bill FOR:EX; Marquis, Paul J FOR:EX	FW: Keogh...Not on High Priority WRP listing/RMP Process	Tue 21 Sep 99 13:05
Collins, Denis A FOR:EX	Millward, Bill FOR:EX; Marquis, Paul J FOR:EX	FW: MoELP Region 1 Review of EEV watershed listing	Tue 21 Sep 99 13:10
Standen, Jim ENV:MS	Marquis, Paul J FOR:EX	FW: MoELP Region 1 Review of EEV watershed listing	Tue 21 Sep 99 13:30
Douglas, Tanis L ENV:MS	Marquis, Paul J FOR:EX	MELP Region 2 RMP input	Tue 21 Sep 99 13:40
Hollingshead, Eva ENV:MS	Marquis, Paul J FOR:EX	FW: MoELP Region 1 Review of EEV watershed listing	Tue 21 Sep 99 13:43
Douglas, Tanis L ENV:MS	Marquis, Paul J FOR:EX	RE: MELP Region 2 RMP input	Tue 21 Sep 99 13:45
Hollingshead, Eva ENV:MS	Standen, Jim ENV:MS; DeHart, Jim FRBC:EX; Collins, Denis A FOR:EX; 'Sheng, Mel'; Marquis, Paul J FOR:EX	RE: MoELP Region 1 Review of EEV watershed listing	Tue 21 Sep 99 15:04
Wetton, David T FOR:EX	Denis Collins; Larry Sigurdson; Mike Connor; Paul Marquis	Final Documents	Wed 22 Sep 99 08:13
Marquis, Paul J FOR:EX	Hollingshead, Eva ENV:MS	RE: MoELP Region 1 Review of EEV watershed listing	Wed 22 Sep 99 08:57
Marquis, Paul J FOR:EX	Hollingshead, Eva ENV:MS	EEV RMP	Wed 22 Sep 99 08:58

EEV RMP 00/01 Communications Log

From	To	Subject	Received
Hollingshead, Eva ENV:MS	Wetton, David T FOR:EX; Connor, Mike FOR:EX; Marquis, Paul J FOR:EX; Sigurdson, Larry FOR:EX	SH for RMP Report	Wed 22 Sep 99 09:26
Collins, Denis A FOR:EX	Millward, Bill FOR:EX; Marquis, Paul J FOR:EX	FW: Keogh...Not on High Priority WRP listing/RMP Process	Wed 22 Sep 99 09:42
Hollingshead, Eva ENV:MS	Marquis, Paul J FOR:EX	RE: MoELP Region 1 Review of EEV watershed listing	Wed 22 Sep 99 09:47
Standen, Jim ENV:MS	Collins, Denis A FOR:EX; DeHart, Jim FRBC:EX; Marquis, Paul J FOR:EX; Sheng, Mel	Need for protocols	Wed 22 Sep 99 09:54
Usher, Bruce FOR:EX	Douglas, Tanis L ENV:MS; Marquis, Paul J FOR:EX	RE: MELP Region 2 RMP input	Wed 22 Sep 99 10:08
Hollingshead, Eva ENV:MS	Standen, Jim ENV:MS; Collins, Denis A FOR:EX; DeHart, Jim FRBC:EX; Marquis, Paul J FOR:EX; Sheng, Mel	RE: Need for protocols	Wed 22 Sep 99 10:09
Hollingshead, Eva ENV:MS	Usher, Bruce FOR:EX; Douglas, Tanis L ENV:MS; Marquis, Paul J FOR:EX	RE: MELP Region 2 RMP input	Wed 22 Sep 99 10:48
Stewart, Marlena ENV:MS	Marquis, Paul J FOR:EX	Possible Date Correction in EEV Report...	Wed 22 Sep 99 11:28
Hollingshead, Eva ENV:MS	Marquis, Paul J FOR:EX; Standen, Jim ENV:MS	Region 1 reviews EEV Listing/RMP	Wed 22 Sep 99 16:30
Standen, Jim ENV:MS	Hollingshead, Eva ENV:MS; Marquis, Paul J FOR:EX	RE: Region 1 reviews EEV Listing/RMP	Thu 23 Sep 99 09:07
Marquis, Paul J FOR:EX	Stewart, Marlena ENV:MS	RE: Possible Date Correction in EEV Report...	Thu 23 Sep 99 09:16
Stewart, Marlena ENV:MS	Marquis, Paul J FOR:EX	RE: Possible Date Correction in EEV Report...	Thu 23 Sep 99 09:25
Marquis, Paul J FOR:EX	Standen, Jim ENV:MS	EEV WRP	Thu 23 Sep 99 10:25
Hollingshead, Eva ENV:MS	Heath, Dick ENV:MS; Bracher, Grant ENV:MS; Lenihan, Carla B ENV:MS; Marquis, Paul J FOR:EX; Standen, Jim ENV:MS; Wetton, David T FOR:EX; Sigurdson, Larry FOR:EX; Jex, Bill A FOR:EX; Connor, Mike FOR:EX; Delisle, Ian FRBC:EX; Davis, Jim FRBC:EX; DeHart, Ji	Deadlines for Pacific Region RMP Report	Thu 23 Sep 99 12:31
Hollingshead, Eva ENV:MS	Bracher, Grant ENV:MS; Lenihan, Carla B ENV:MS; Marquis, Paul J FOR:EX; Standen, Jim ENV:MS; Wetton, David T FOR:EX; Sigurdson, Larry FOR:EX; Jex, Bill A FOR:EX; Connor, Mike FOR:EX; Delisle, Ian FRBC:EX; Davis, Jim FRBC:EX; DeHart, Jim FRBC:EX; Closson,	REQUEST FROM IAN DELISLE....RMP	Thu 23 Sep 99 14:35
LARDEN, Troy P ENV:MS	Standen, Jim ENV:MS; Collins, Denis A FOR:EX; DeHart, Jim FRBC:EX; Marquis, Paul J FOR:EX; Sheng, Mel	RE: Need for protocols	Thu 23 Sep 99 14:37
Standen, Jim ENV:MS	Douglas, Tanis L ENV:MS; Marquis, Paul J FOR:EX	RE: MELP Region 2 RMP input	Thu 23 Sep 99 15:18
Hollingshead, Eva ENV:MS	LARDEN, Troy P ENV:MS; Standen, Jim ENV:MS; Collins, Denis A FOR:EX; DeHart, Jim FRBC:EX; Marquis, Paul J FOR:EX; Sheng, Mel	RE: Need for protocols	Thu 23 Sep 99 15:55
Douglas, Tanis L ENV:MS	Standen, Jim ENV:MS; Collins, Denis A FOR:EX; DeHart, Jim FRBC:EX; Marquis, Paul J FOR:EX; Hollingshead, Eva ENV:MS	RE: Need for protocols	Fri 24 Sep 99 09:20
Hollingshead, Eva ENV:MS	Douglas, Tanis L ENV:MS; Standen, Jim ENV:MS; Collins, Denis A FOR:EX; DeHart, Jim FRBC:EX; Marquis, Paul J FOR:EX	Is something happening??? EEV/RMP	Fri 24 Sep 99 10:31
Wetton, David T FOR:EX	Hollingshead, Eva ENV:MS; Heath, Dick ENV:MS	Last Minute EEV Issues	Fri 24 Sep 99 10:35
Standen, Jim ENV:MS	'Hall, Ken'	RE: WFP WRP RMP Revision #1	Fri 24 Sep 99 10:38
Hollingshead, Eva ENV:MS	Standen, Jim ENV:MS; 'Hall, Ken'	RE: WFP WRP RMP Revision #1	Fri 24 Sep 99 11:04
Hollingshead, Eva ENV:MS	Wetton, David T FOR:EX; Heath, Dick ENV:MS	RE: Last Minute EEV Issues	Fri 24 Sep 99 11:07
Standen, Jim ENV:MS	Hollingshead, Eva ENV:MS; 'Hall, Ken'	RE: WFP WRP RMP Revision #1	Fri 24 Sep 99 11:09
Standen, Jim ENV:MS	Wetton, David T FOR:EX; Heath, Dick ENV:MS; Hollingshead, Eva ENV:MS	RE: Last Minute EEV Issues	Fri 24 Sep 99 11:15
Douglas, Tanis L ENV:MS	Marquis, Paul J FOR:EX; Hollingshead, Eva ENV:MS; Standen, Jim ENV:MS	final RMP comments	Fri 24 Sep 99 11:21
Hollingshead, Eva ENV:MS	Standen, Jim ENV:MS; 'Hall, Ken'	RE: WFP WRP RMP Revision #1	Fri 24 Sep 99 11:36
Standen, Jim ENV:MS	Hollingshead, Eva ENV:MS; Stewart, Marlena ENV:MS; Douglas, Tanis L ENV:MS; CHAPMAN, Brian B ENV:MS; LARDEN, Troy P ENV:MS; Bate, Dan L FOR:EX; Collins, Denis A FOR:EX; DeHart, Jim FRBC:EX; Sager, John ELP:EX; Marquis, Paul J FOR:EX; Sheng, Mel	Suggested solution to current EEV issues	Fri 24 Sep 99 12:01
Hollingshead, Eva ENV:MS	Standen, Jim ENV:MS; Stewart, Marlena ENV:MS; Douglas, Tanis L ENV:MS; CHAPMAN, Brian B ENV:MS; LARDEN, Troy P ENV:MS; Bate, Dan L FOR:EX; Collins, Denis A FOR:EX; DeHart, Jim FRBC:EX; Sager, John ELP:EX; Marquis, Paul J FOR:EX; Sheng, Mel	PLEASE READ..Region 1 Agrees!!...We can Buy some time here....read on....	Fri 24 Sep 99 12:22
Standen, Jim ENV:MS	Marquis, Paul J FOR:EX	RE: RMP list	Fri 24 Sep 99 12:55
Hollingshead, Eva ENV:MS	Standen, Jim ENV:MS; Marquis, Paul J FOR:EX	Some more good advise required...RMP EEV list	Fri 24 Sep 99 14:04
Wetton, David T FOR:EX	Hollingshead, Eva ENV:MS	RE: RMP Report...RD Review, Approval and Signoff...by Wed. Sept 29/99	Fri 24 Sep 99 16:48

EEV RMP 00/01 Communications Log

From	To	Subject	Received
Hollingshead, Eva ENV:MS	Wetton, David T FOR:EX	RE: RMP Report RD Review, Approval and Signoff...by Wed. Sept 2	Mon 27 Sep 99 09:32
Hollingshead, Eva ENV:MS	Wetton, David T FOR:EX	RE: RMP Report RD Review, Approval and Signoff...by Wed. Sept 2	Mon 27 Sep 99 09:56
Standen, Jim ENV:MS	Hollingshead, Eva ENV:MS; Wetton, David T FOR:EX	RE: RMP Report RD Review, Approval and Signoff...by Wed. Sept 2	Mon 27 Sep 99 09:57
Wetton, David T FOR:EX	Heath, Dick ENV:MS	EEV: Target vs. Key Watershed	Mon 27 Sep 99 10:59
Hollingshead, Eva ENV:MS	LANGIN, Herb D ENV:MS; McCracken, Jim ENV:MS; Shea, Pat M ENV:MS; PINETTE, Julie S ENV:MS; Yardley, Jim R ELP:EX; Woodworth, Sharon J ELP:EX	RE: RMP Report RD Review, Approval and Signoff...by Wed. Sept 29/99	Mon 27 Sep 99 11:01
Heath, Dick ENV:MS	Wetton, David T FOR:EX	RE: Target vs. Key Watershed	Mon 27 Sep 99 11:37
Wetton, David T FOR:EX	Heath, Dick ENV:MS	RE: Target vs. Key Watershed	Mon 27 Sep 99 11:48
Hollingshead, Eva ENV:MS	Heath, Dick ENV:MS; Stewart, Marlena ENV:MS; Standen, Jim ENV:MS; Lough, Jeff C ELP:EX; LARDEN, Troy P ENV:MS; Marquis, Paul J FOR:EX; Wetton, David T FOR:EX; 'Sheng, Mel'; Douglas, Tanis L ENV:MS; Sager, John ELP:EX	URGENT/PLEASE READ...EEV input required. Paragraph to be inserted to explain anomalies	Mon 27 Sep 99 12:31
Standen, Jim ENV:MS	Heath, Dick ENV:MS; Hollingshead, Eva ENV:MS; Stewart, Marlena ENV:MS; Douglas, Tanis L ENV:MS; LARDEN, Troy P ENV:MS; Wetton, David T FOR:EX; Lough, Jeff C ELP:EX; Sager, John ELP:EX; Marquis, Paul J FOR:EX; 'Sheng, Mel'	RE: URGENT/PLEASE READ...EEV input required. Paragraph to be inserted to explain anomalies	Mon 27 Sep 99 13:33
Wetton, David T FOR:EX	Hollingshead, Eva ENV:MS; Heath, Dick ENV:MS; Stewart, Marlena ENV:MS; Standen, Jim ENV:MS; Lough, Jeff C ELP:EX; LARDEN, Troy P ENV:MS; Marquis, Paul J FOR:EX; 'Sheng, Mel'; Douglas, Tanis L ENV:MS; Sager, John ELP:EX	RE: URGENT/PLEASE READ...EEV input required. Paragraph to be inserted to explain anomalies	Mon 27 Sep 99 13:34
Hollingshead, Eva ENV:MS	Lough, Jeff C ELP:EX	RE: URGENT/PLEASE READ...EEV input required. Paragraph to be in	Mon 27 Sep 99 13:49
Standen, Jim ENV:MS	Wetton, David T FOR:EX; Heath, Dick ENV:MS; Hollingshead, Eva ENV:MS; Lough, Jeff C ELP:EX; Standen, Jim ENV:MS; Sager, John ELP:EX; Stewart, Marlena ENV:MS; Marquis, Paul J FOR:EX; 'Sheng, Mel'; Douglas, Tanis L ENV:MS; LARDEN, Troy P ENV:MS	RE: URGENT/PLEASE READ...EEV input required. Paragraph to be inserted to explain anomalies	Mon 27 Sep 99 13:50
Hollingshead, Eva ENV:MS	Standen, Jim ENV:MS; Heath, Dick ENV:MS; Stewart, Marlena ENV:MS; Douglas, Tanis L ENV:MS; LARDEN, Troy P ENV:MS; Wetton, David T FOR:EX; Lough, Jeff C ELP:EX; Sager, John ELP:EX; Marquis, Paul J FOR:EX; 'Sheng, Mel'	RE: URGENT/PLEASE READ...EEV input required. Paragraph to be inserted to explain anomalies	Mon 27 Sep 99 13:51
Hollingshead, Eva ENV:MS	Wetton, David T FOR:EX; Hollingshead, Eva ENV:MS; Heath, Dick ENV:MS; Stewart, Marlena ENV:MS; Standen, Jim ENV:MS; Lough, Jeff C ELP:EX; LARDEN, Troy P ENV:MS; Marquis, Paul J FOR:EX; 'Sheng, Mel'; Douglas, Tanis L ENV:MS; Sager, John ELP:EX	RE: URGENT/PLEASE READ...EEV input required. Paragraph to be inserted to explain anomalies	Mon 27 Sep 99 13:53
Wetton, David T FOR:EX	Standen, Jim ENV:MS; Heath, Dick ENV:MS; Hollingshead, Eva ENV:MS; Stewart, Marlena ENV:MS; Douglas, Tanis L ENV:MS; LARDEN, Troy P ENV:MS; Lough, Jeff C ELP:EX; Sager, John ELP:EX; Marquis, Paul J FOR:EX; 'Sheng, Mel'	RE: URGENT/PLEASE READ...EEV input required. Paragraph to be inserted to explain anomalies	Mon 27 Sep 99 13:59
Hollingshead, Eva ENV:MS	Wetton, David T FOR:EX; Standen, Jim ENV:MS; Heath, Dick ENV:MS; Hollingshead, Eva ENV:MS; Stewart, Marlena ENV:MS; Douglas, Tanis L ENV:MS; LARDEN, Troy P ENV:MS; Lough, Jeff C ELP:EX; Sager, John ELP:EX; Marquis, Paul J FOR:EX; 'Sheng, Mel'; Husted, Lyn	RE: URGENT/PLEASE READ...EEV input required. Paragraph to be inserted to explain anomalies	Mon 27 Sep 99 14:09
Marquis, Paul J FOR:EX	Wetton, David T FOR:EX	WRP RMP	Mon 27 Sep 99 14:14
Marquis, Paul J FOR:EX	Hollingshead, Eva ENV:MS	FW: WRP RMP	Mon 27 Sep 99 14:16
Hollingshead, Eva ENV:MS	Marquis, Paul J FOR:EX	RE: WRP RMP	Mon 27 Sep 99 14:47
Husted, Lynn D FRBC:EX	Standen, Jim ENV:MS; Wetton, David T FOR:EX; Heath, Dick ENV:MS; Hollingshead, Eva ENV:MS; Lough, Jeff C ELP:EX; Sager, John ELP:EX; Stewart, Marlena ENV:MS; Marquis, Paul J FOR:EX; 'Sheng, Mel'; Douglas, Tanis L ENV:MS; LARDEN, Troy P ENV:MS	RE: URGENT/PLEASE READ...EEV input required. Paragraph to be inserted to explain anomalies	Mon 27 Sep 99 14:49
Hollingshead, Eva ENV:MS	Husted, Lynn D FRBC:EX; Standen, Jim ENV:MS; Wetton, David T FOR:EX; Heath, Dick ENV:MS; Hollingshead, Eva ENV:MS; Lough, Jeff C ELP:EX; Sager, John ELP:EX; Stewart, Marlena ENV:MS; Marquis, Paul J FOR:EX; 'Sheng, Mel'; Douglas, Tanis L ENV:MS; LARDEN, Tr	RE: URGENT/PLEASE READ...EEV input required. Paragraph to be inserted to explain anomalies	Mon 27 Sep 99 15:22
Husted, Lynn D FRBC:EX	Hollingshead, Eva ENV:MS; Standen, Jim ENV:MS; Wetton, David T FOR:EX; Heath, Dick ENV:MS; Lough, Jeff C ELP:EX; Sager, John ELP:EX; Stewart, Marlena ENV:MS; Marquis, Paul J FOR:EX; 'Sheng, Mel'; Douglas, Tanis L ENV:MS; LARDEN, Troy P ENV:MS	RE: URGENT/PLEASE READ...EEV input required. Paragraph to be inserted to explain anomalies	Mon 27 Sep 99 16:05
Wetton, David T FOR:EX	Husted, Lynn D FRBC:EX; Standen, Jim ENV:MS; Heath, Dick ENV:MS; Hollingshead, Eva ENV:MS; Lough, Jeff C ELP:EX; Sager, John ELP:EX; Stewart, Marlena ENV:MS; Marquis, Paul J FOR:EX; 'Sheng, Mel'; Douglas, Tanis L ENV:MS; LARDEN, Troy P ENV:MS	RE: URGENT/PLEASE READ...EEV input required. Paragraph to be inserted to explain anomalies	Mon 27 Sep 99 16:12

EEV RMP 00/01 Communications Log

From	To	Subject	Received
Wetton, David T FOR:EX	Husted, Lynn D FRBC:EX; Hollingshead, Eva ENV:MS; Standen, Jim ENV:MS; Heath, Dick ENV:MS; Lough, Jeff C ELP:EX; Sager, John ELP:EX; Stewart, Marlena ENV:MS; Marquis, Paul J FOR:EX; 'Sheng, Mel'; Douglas, Tanis L ENV:MS; LARDEN, Troy P ENV:MS	RE: URGENT/PLEASE READ EEV input required Paragraph to be inserted to explain anomalies	Mon 27 Sep 99 16:21
Husted, Lynn D FRBC:EX	Hollingshead, Eva ENV:MS; Standen, Jim ENV:MS; Wetton, David T FOR:EX; Heath, Dick ENV:MS; Lough, Jeff C ELP:EX; Sager, John ELP:EX; Stewart, Marlena ENV:MS; Marquis, Paul J FOR:EX; 'Sheng, Mel'; Douglas, Tanis L ENV:MS; LARDEN, Troy P ENV:MS	RE: URGENT/PLEASE READ EEV input required Paragraph to be inserted to explain anomalies	Tue 28 Sep 99 12:08
Standen, Jim ENV:MS	Hollingshead, Eva ENV:MS; Stewart, Marlena ENV:MS; Douglas, Tanis L ENV:MS; CHAPMAN, Brian B ENV:MS; LARDEN, Troy P ENV:MS; Bate, Dan L FOR:EX; Collins, Denis A FOR:EX; DeHart, Jim FRBC:EX; Sager, John ELP:EX; Marquis, Paul J FOR:EX; Sheng, Mel	Map	Tue 28 Sep 99 12:20
Standen, Jim ENV:MS	Collins, Denis A FOR:EX; Marquis, Paul J FOR:EX	FW: Text for fish/water part of RMP	Tue 28 Sep 99 12:21
Hollingshead, Eva ENV:MS	Connor, Mike FOR:EX; Stewart, Marlena ENV:MS	PLEASE READ RMP report has already been sent electronically//hardcopy via RUSH courier for RD/RM review and approval	Tue 28 Sep 99 12:27
Standen, Jim ENV:MS	Hollingshead, Eva ENV:MS; Jex, Bill A FOR:EX; Robinson, Craig S FOR:EX; Connor, Mike FOR:EX; Marquis, Paul J FOR:EX	RE: PLEASE READ: SSFM and EEV RMP Report	Tue 28 Sep 99 14:09
Standen, Jim ENV:MS	Hollingshead, Eva ENV:MS; Stewart, Marlena ENV:MS; Douglas, Tanis L ENV:MS; CHAPMAN, Brian B ENV:MS; LARDEN, Troy P ENV:MS; Bate, Dan L FOR:EX; Collins, Denis A FOR:EX; DeHart, Jim FRBC:EX; Sager, John ELP:EX; Marquis, Paul J FOR:EX; Sheng, Mel	FW: WSRP	Tue 28 Sep 99 14:21
Wetton, David T FOR:EX	Heath, Dick ENV:MS; Denis Collins; Larry Sigurdson; Mike Connor; Paul Marquis	Final MoF and MELP RMP Submissions	Tue 28 Sep 99 16:20
Hollingshead, Eva ENV:MS	Wetton, David T FOR:EX; Heath, Dick ENV:MS; Collins, Denis A FOR:EX; Sigurdson, Larry FOR:EX; Connor, Mike FOR:EX; Marquis, Paul J FOR:EX	RE: Final MoF and MELP RMP Submissions	Tue 28 Sep 99 16:38
Wetton, David T FOR:EX	Nash, Ted FOR:EX	Sign off of Final RMPs	Tue 28 Sep 99 16:55
Hollingshead, Eva ENV:MS	Delisle, Ian FRBC:EX; Bronstein, Ron FRBC:EX; DeHart, Jim FRBC:EX; Davis, Jim FRBC:EX; Closson, Don FRBC:EX	Submission of Final RMP to FRBC/Campbell River	Wed 29 Sep 99 11:56
Wetton, David T FOR:EX	Hollingshead, Eva ENV:MS; Heath, Dick ENV:MS	FW: Submission of Final RMP to FRBC/Campbell River	Wed 29 Sep 99 12:23
Bate, Dan L FOR:EX	Standen, Jim ENV:MS; Marquis, Paul J FOR:EX; Hollingshead, Eva ENV:MS	RE: Some more good advise required RMP EEV list	Thu 30 Sep 99 10:52
Marquis, Paul J FOR:EX	Bate, Dan L FOR:EX	RE: Some more good advise required RMP EEV list	Thu 30 Sep 99 13:36
Wetton, David T FOR:EX	Bronstein, Ron FRBC:EX	Delivery of MoF RMP documents	Thu 30 Sep 99 16:10